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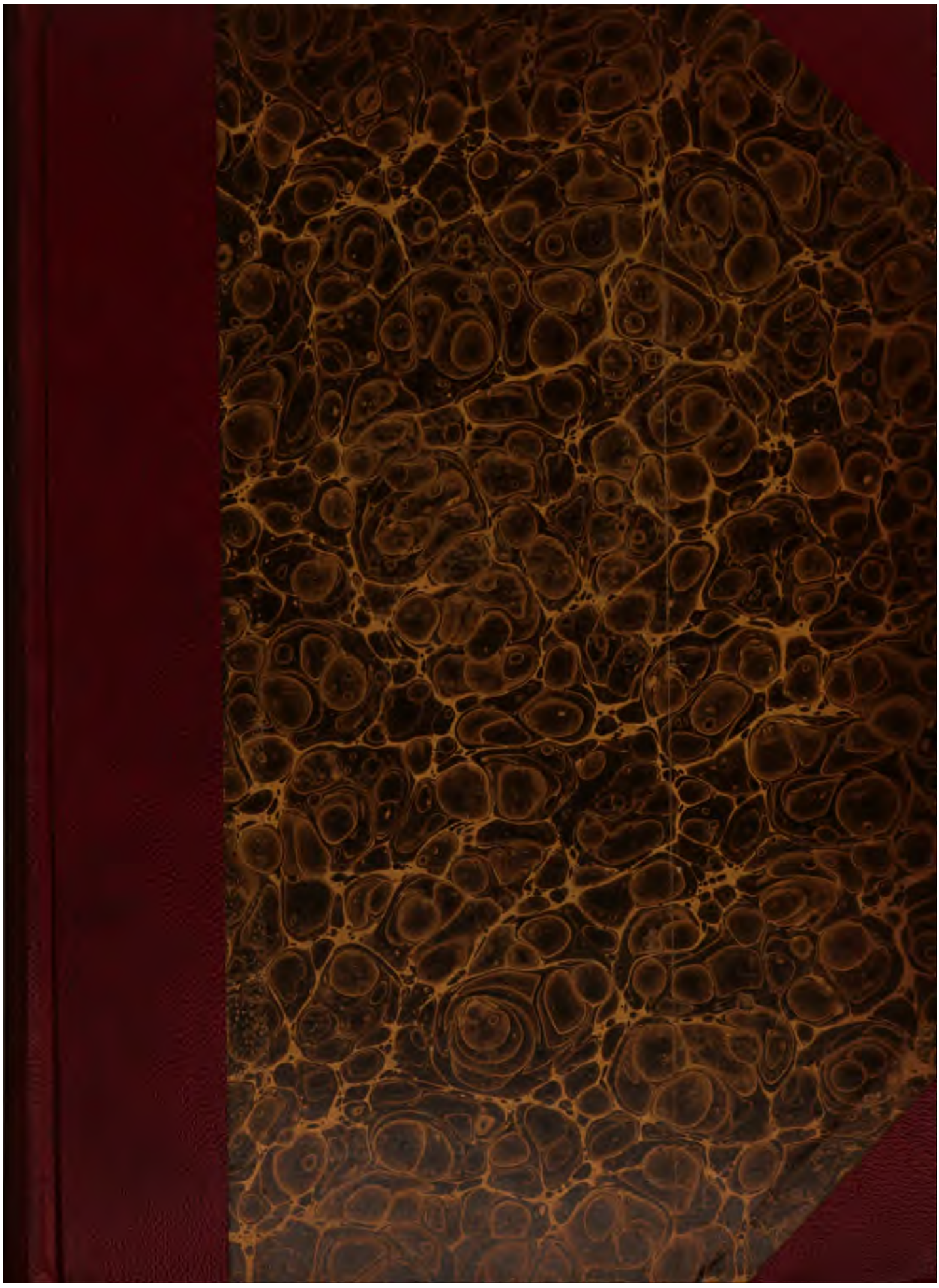

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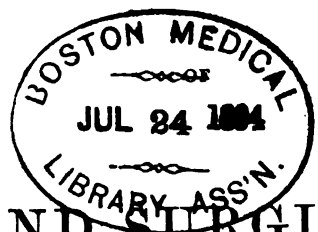

MEDICAL AND SURGICAL SCIENCE,
CRITICISM AND NEWS.

EDITED BY

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Original Communications.

POST NASAL ADENOIDS.

BY J. D. THORBURN, M.B., L.R.C.P. AND S., EDIN.

Late Superintendent of Hospital for Consumption and Diseases of the Throat, Manchester, England.

Mr. President and Gentlemen :—

So much has been written upon post nasal adenoid vegetations, that it was with some feeling of diffidence I selected this subject for my paper, but it is one of such importance, especially to us Canadians, that I deemed it worthy to be brought before the Association. Post nasal adenoids were known to Hunter, but were first described by Wilhelm Meyer, Copenhagen, who gave a description of the ætiology, structure and the symptoms arising from their presence. Since that time many writers of greater or less worth have contributed much upon the same subject.

"Adenoid vegetations consist of a collection of hypertrophied lymphoid structures found as a rule in young children and infants, more rarely in adults, congenital in some, developed in infancy in others, and showing a tendency to disappear at puberty." The etiology of these true hypertrophic changes, in the lympathic glands, is not well understood.

From a study of cases we are forced to admit, that scrofula, tuberculosis, syphilis, rheumatism and the various exanthemata are all predisposing causes. Many authorities deny, however, that the above mentioned dyscrasia influence the formation of the growths, and explain their presence as being due to inflammatory changes, resulting in a tendency to hypertrophy of the glandular and surrounding tissues lining the post nasal space.

"When, from any cause, we have partial occlusion of the nasal fossæ, so long as respiration is conducted through the nose, there is, of a physical necessity, a diminution in the barometric pressure, behind the seat of stenosis. This inevitably results in more or less over filling of the blood vessels. which in its turn leads to hypernutrition."

The inflammatory changes of this region being followed by primary catarrhal changes, characterized by repeated attacks of acute rhinitis, hypertrophy of pre-existing elements is nowhere more conspicuously seen than the case of post nasal adenoids.

The modus operandi of the diminished barometric pressure behind the stenosis is as follows :— As you know when air passes behind an obstruction into a cavity, it becomes rarified ; this rarefaction of air has a suction power, which is influenced by each respiratory act, in such a manner as to cause a drawing upon, and then a more or less relaxation, of the tissues.

The bony structures cannot be influenced in a direct manner, therefore the soft parts are subjected to a greater suction-pump action, in order to compensate for the inability of the hard frame work. In time the blood vessels running through the yielding tissues become permanently dilated, and the increased blood supply leads in turn to hypernutrition and true hypertrophy.

The most common cause of the stenosis are (*a*) congenital osseous malformations, (*b*) small nostrils, (*c*) deflected septa, (*d*) septal spurs, (*e*) hypertrophic rhinitis, (*f*) simple engorgement of tissue covering more especially the inferior turbinated bones, (*h*) thickened septa, (*i*) then again adenoids are found associated with atrophic rhinitis and cleft palate.

Bosworth says "as a rule the seat of obstruction is situated near the anterior part of the nasal fossæ, and that in the case of deflected septa we often find the V shaped contraction of the superior maxilla." After the above explanation one can appreciate why the vault of the pharynx is the seat of adenoid vegetation, accepting the barometric theory as being the true one in the great majority of cases ; still there are other causes to account for the presence of adenoids which shall be mentioned later on.

Not being satisfied with the various classifications of adenoids as given by different authors, I have attempted a classification for myself, based upon clinical experience and have found it of some service, both as regards diagnosis and treatment, and hope it will prove of value to others.

First: Those resulting from nasal stenosis, which I again sub-divide into (*a*) soft, (*b*) firm, (*c*) mixed.

A.—The soft variety occurs in young children, subjects of a slight nasal stenosis. The dimensions of the growth and shape vary from day to day, at one time being small and flat, at another large, and sending down finger-like prolongations; these changes are no doubt owing to transitory œdema of the tissues.

Associated with these changes in size and shape, we find a corresponding increasing and decreasing nasal stenosis. From the appearance, structure and behaviour of the growths one would almost be justified in calling them a polypoid form of the disease. It is this variety that gives rise to the repeated attacks of acute rhinitis and otorrhœa in young children.

B.—Firm: These obtain in a totally different type of patient in contradistinction to class 1. They are found in healthy robust subjects, are slow in growth, firm in consistence, more regular in outline, showing a tendency to lateral and downward extension; do not vary in size from day to day. There is a marked nasal obstruction, and as a rule greatly enlarged tonsils. The best defined symptoms indicating their presence is facial deformity, noisy breathing and snoring, and if far advanced we find well marked pigeon breast.

C.—Mixed; Fill in the gap between one and two, both as regards the structure and symptoms.

Besides the above classes I wish to draw your attention to at least two other varieties which have certain pecularities of their own, not so much in structure as in ætiology and symptoms. We find in a certain number of young adults well marked adenoids of large size, localized in the vault of the pharynx, firm in consistence; upon post rhinoscopic examination, the growth instead of presenting a greyish appearance presents rather that of a blueish red, the same as seen in passive inflammation of mucous tissue. Associated with this form are enlarged tonsils, showing on their surface indications of former inflammatory attacks. Now it has been proven beyond doubt by Lennox Browne and others that these attacks are due to rheumatism. This being the case with the buccal tonsils, it must of necessity be the same with the pharyngeal tonsil, which is similar in structure and functions.

The following history will go to prove my statement. H. J., æt. 15, school boy, healthy, but has a history of growing pains (rheumatism), and slight rheumatic attacks, father and mother both subject to rheumatism Previous history. Except for above attacks and also a tendency to "ulcerated throat," he has enjoyed the best of health. Did not snore as a child, but does now. Present attack began with a severe cold, complained of rheumatic pains throughout the body; these lasted three days, when the throat became involved in a right sided tonsillitis, followed by same condition on the left side. Leaving there, the pharyngeal (Luschska) tonsil was attacked; this jumping from place to place lasted three weeks. After a tedious convalesence the patient recovered, but now has a permanently enlarged pharyngeal tonsil. This is one of many cases that have come under my notice.

The fifth and last variety is that of the chronically enlarged pharyngeal tonsil, the outcome of repeated attacks of inflammation caused by the presence of the vegetable parasite, leptothrix buccalis; and occurring chiefly in young adults. This parasite shows its presence in the form of small white or yellowish spots the size of millet seeds, covering a cheesy mass, which when pressed and squeezed between the fingers emit a very offensive odour. These masses are to be seen studded over all the nostrils and even on the base of the tongue. The patient is made aware of this presence from their taste, which is quite as bad as their odour.

These masses cause localized inflammation in the substance of the affected part, and in time a true hypertrophy of the same. The symptoms arising from their presence are more of those of a post pharyngeal catarrh than of obstruction. The patient also hawks up from time to time some of the cheesy masses. Race or climate has but little influence over the growth of adenoids. The only exception in this rule is in the Hebrew race who are prone to adenoid formation. Before describing the general symptoms of adenoids it would be well to refer to the functions of nasal respiration.

1st. Air passing through the nostrils is brought to the temperature of the body. 2nd. It is moistened and filtered. 3rd. Gaseous exchange takes place. Any interference of these functions would tend to lead to bronchitis, croup, asthma and other diseases of the respiratory tract.

Symptoms.—In the infant the inability to feed when not due to "tongue tie" is generally owing to the presence of adenoids. In older children we have the well marked adenoid expression of countenance due to the linea labialis extending downwards from the angle of the mouth until it becomes lost in the lower portion of the face. An open mouth, stupid expression, pinched nostrils, go to make up the picture. Snoring when asleep is a very prominent and distressing symptom; when there is no actual snoring the patient sleeping with his mouth open has his rest disturbed, and in the morning his lips are dry and parched. Inability to pronounce various letters, as the explosive labial, is another almost pathognomonic sign, as poat for boat.

Attacks of deafness are common; these may be due to a simple or a purulent cartarrh of the middle ear or to an indrawing of the drum head. The sense of smell and taste are impaired, headache is complained of, as well as blood escaping from the back of the mouth. Time will not permit me to enumerate the many other symptoms caused by these growths.

Examination of the mouth and throat shows almost certain indications of the presence of adenoids; higher up in the vault inspection we see enlarged buccal tonsils, and on the back of the pharynx œdematous solitary glands standing out from the surrounding tissue. The next thing we notice is the remarkably small space between the soft palate and post pharynx. If possible the next step in verifying the diagnosis is examination by means of the post rhinoscopic mirror, a difficult procedure when adenoids are present. If unable to see them, pass a guarded finger up behind the soft palate and ascertain by feeling their absence or presence. Upon withdrawal of the finger it is frequently found covered with a bloody mucus.

Treatment.—I will not say anything about the medical treatment as applied to the removal of the growths, inasmuch as I do not consider it worthy of attention. Surgical interference affords us the only means of getting rid of the disease. In children when the growths are soft my mode of treatment consists in scraping away the tissue with the finger-nail, no anæsthetic being required. In growths of firmer consistency one of the various forms of sharp spoons, forceps, or curets are to be recommended, according to the locality of the growths and the temperament of the patient.

In my practice chloroform or ether are never used unless absolutely necessary, and that occurs in very few cases; cocaine has no anæsthetic effect upon the diseased tissue. The after treatment consists in insufflating boric acid through either nostril. I never use a nasal wash until some days after the operation, owing to the tendency of washing in to the eustachian tube some of the *debris*. Place the patient in bed and do not allow him to take of either too hot or too cold food. After the wound is healed remove the obstruction or exciting cause.

OPERATION FOR THE RADICAL CURE OF HERNIA.*

BY THOMAS R. DUPUIS, M.D., M.R.C.S., ENG.

Professor of Clinical Surgery in the Medical Faculty of Queen's University, Kingston.

(*Continued from August Number*).

The second case was that of an oblique inguinal hernia of about six months standing, in a young man 22 years of age. He had been ruptured by a heavy strain, and although the bowel was fully restrained by a truss, he found the wearing of a truss irksome, and naturally sought for some permanent relief. He consulted one of our most promising young M.D's., who recommended an operation of some kind, and brought him to me for my advice. I advised an operation by the direct method of cutting down and suturing the parts together in a proper manner. After the nature and probable results of the operation had been fully and honestly laid before the young man, he concluded to take the risk, and was anxious to have the operation performed.

After our patient had been anæsthetized and the parts shaved and well scrubbed with a strong antiseptic solution of HG Cl_2, I made an incision in the line of the canal, and proceeded layer by layer until the pillars of the ring were reached, the external ring was then enlarged upwards on the fore-finger until the two rings corresponded, and with the finger still in the ring, the edges of the conjoined tendon on the one side and of the

* Read before the Ont. Med. Assoc'n, Toronto, June, '92.

upper margin of Poupart's ligament on the other, were refreshed by a probe pointed hernia knife. After all bleeding had been arrested and the wound effectively douched with a warm solution of HG Cl_2 to aq. 4000, the work of suturing was proceeded with.

In this operation I used prepared cariboo tendon for sutures, and I believe that nothing can supersede it for either fine or coarse suturing where sutures are intended to remain.

The tendinous pillars were firmly drawn together by four sutures of good-sized splittings of the cariboo tendon, the fascia and skin were approximated by deep sutures of good-sized tendon, interrupted, and the skin closure completed by a continuous suture of fine tendon, covered by collodion and dusted with iodoform. A saturated compress of antiseptic gauze was placed upon the wound and overlaid with absorbent cotton, and a broad spica bandage completed the dressing.

The patient was placed in bed in a half-sitting posture, with pillows beneath his knees, morphine administered, the greatest quietness observed, and all such other measures carried out as would be considered requisite after a laparotomy. Healing was very soon effected, and the patient became so well in one fortnight that it was with difficulty I persuaded him to lie upon his back for six weeks —my prescribed time. No bad symptoms whatever followed the operation, and a few days ago I saw him going to his work—that of a tinsmith—feeling as well, he said, as he ever did in his life

The third case was that of a young man about 24 years of age, who suffered from a complication of hernia, with imperfectly descended testicle. The testicle could be forcibly drawn down as far as the external ring, but was immediately retracted on being let loose, and remained in the upper part of the inguinal canal. The sac had been gradually elongated until the hernial protrusion passed in front of the testicle, distended the canal, and appeared as a spherical swelling over the front of external ring.

He had been advised from time to time to wear a truss, but, of course, on account of the testicle being situated beneath the pad of the truss, it was impossible for him to wear one. Suffering more or less pain constantly, and sometimes very acutely, in the testicle, and being unable to do any active duties, I proposed to him an operation for removal of the irritable testicle, and the cure of his hernia, to which he readily consented.

The preliminaries and concomitants of the operation were the same as those of the last case.

In cutting down, I came upon the sac of the hernia before reaching the testicle, because the posterior part of the sac was adherent to the front and upper part of the tunica vaginalis testis, the hernia lying in front of the testicle as in "hernia into the funicular process," but reaching *below* the testicle instead of remaining *above* it, on account of the undescended state of the testicle. The sac was separated from the constituents of the cord and stitched through with fine catgut, close enough together to maintain the two layers in exact apposition; a stout piece of catgut was passed through the cord of the testicle to prevent its retreating when severed, the tunica vaginalis was then opened, the cord securely ligated, the testicle cut away, and also the non-adherent portion of the tunica. The cord was held in place by the loop which had been passed through it, the sac was cut away beyond the line of stitches and returned, the edges of the canal refreshed, bleeding arrested, and three strong catgut ligatures passed through the pillars of the ring from side to side, and two of them at least passing through the stump of the cord in such a manner as to convert it into a plug to help fill up the vacancy which had been left by the removal of the testicle. The fascia and skin were approximated by deep, interrupted and superficial, continuous sutures, collodion and iodoform applied, and antiseptic gauze, absorbent cotton and a firm bandage over the whole. After-treatment, similar in all respects to the former case, even to the six weeks in bed, was carried out, and no rise of temperature or other bad symptom were ever present to cause the least anxiety. In none of the foregoing cases was a drainage-tube used; the wounds had been diligently douched and sponged with a warm solution of water containing HG Cl_2, the dressings were all antiseptic, union by the first intention was confidently expected, and we were not disappointed, and they seem to me worthy of being classed as safe, speedy, and permanent cures.

The fourth case is one at which I only assisted, but as it is another testimony in a favor of the safety of cutting down upon herniæ, I deem it worthy of being reported.

The subject was a middle-aged maiden lady who had suffered with her herniæ for perhaps 20 years. It had been an oblique inguinal herniæ and the sac had either distended the deep layer of superficial fascia, or caused its absorption by continued pressure, for the tumor, as large as a goose egg, lay in Scarpa's triangle and the neck passed over Poupart's ligament from the abdominal ring. The long continued irritation had caused consolidation of all the coverings of the herniæ and adhesion of the sac to the deep fascia of the front of the thigh; fortunately the intestines were not adherent and could be returned into the abdomen. When everything was in readiness the contents of the sac were pushed through the ring and retained there by the fingers of an assistant, the sac and coverings held up in a fold perpendicular to the thigh, and the knife at right angles to the line of the thigh, cutting from above downwards was made to remove the whole front of the empty tumor which had somewhat the appearance of a skull-cap. As soon as the cavity was open for inspection it was found that the anterior portion of the hernial sac had been cut away with the skin to which it was adherent, and that the posterior portion was adherent to the deep fascia of the front of the thigh. This deep portion was carefully dissected off from the underlying tissue, and the neck of the sac freed from its surrounding attachments up to the abdominal ring, thus leaving a tubular prolongation of peritoneum open at the lower end. The intestines were retained in their place by the fingers and soft antiseptic sponges, and the tube of peritoneum well pulled down so that it could be firmly closed by ligature. Two double ligatures of strong fine catgut were passed through it, their ends tied together on each side, and then passed around the whole neck a couple of times and firmly tied. The distal end of the peritonal tube was then cut off close beyond the sutures, all bleeding arrested, the wound thoroughly douched with a warm antiseptic solution of $HgCl_2$—aq. 4000 the wound carefully sutured with prepared catgut and the whole dressed antiseptically with collodion, iodoform, gauze and bandages. A drainage tube was inserted in this case and the patient was kept exceedingly quiet, fed low and very carefully watched. I saw her but once and that was about a fortnight after the operation, and she was then recovering very nicely. Her attendant M. D., told me that she had had no alarming symptoms; her pulse had been somewhat quickened and the temperature elevated for a few days, and nausea, I believe, annoyed her a few times. From the extent and peculiarity of the operation, and the nature of the parts so freely handled and cut open and sewn up, I had expected a much greater disturbance than there was. The lady was kept in her bed for about six weeks, when the wound being entirely healed she was allowed to go about. This operation did not make a radical cure, but it should not be forgotten that there was no attempt made to secure a radical cure; the object aimed at was to relieve the lady of the pain and discomfort caused by the large tumor in her groin and this has been done, and hernial protrusion now being limited (so I am told by her M. D.,) to a small swelling in the region of the internal abdominal ring and this is perfectly controlled by a light truss.

In conclusion, permit me to say that I have thrown together these rambling remarks, not for the purpose of giving instruction in, but to call attention to, this operation for the radical cure of hernia, believing it to be the very best in a large majority of cases; and to show also the safety with which surgical interference may take place in the parts involved in herniæ.

I thank you for your attention and express the hope that others may reflect upon and prove the efficiency of the *direct* operation for the radical cure of herniæ.

Reports of Societies.

ONTARIO MEDICAL COUNCIL.

(Continued.)

Reports of Standing and Special Committees.

Dr. Williams presented the report of the Executive Committee for the year as follows:

Your Committee beg leave to report that they held two meetings on the 17th March, and 6th April, at which meetings your Registrar was directed to ask the following members of the Council, and members of the profession, to accompany your Committee when interviewing the Attorney-General and the Government of Ontario, regarding the Bills which had been presented to the Local Legislature affecting the Medical Coun-

cil and the profession in this Province, namely, Drs. Bergin, Day, Orr, Britton, Moore, Geikie, Johnson, Thorburn, Aikins, Wright and Ruttan.

Your Committee believe this was necessary, after the representations made to them by Dr. A. McKay, M.L.A., of Ingersoll, Ontario, and the misapprehensions that appeared to exist in the minds of many of the profession, and particularly the promoters of the Bills brought before the Legislature.

The first meeting which was held on the 17th March. was for the purpose of presenting the case to the Premier and other members of the Government.

The second meeting was rendered necessary, because of the meeting of the Special Committee, to whom the Bills amending the Ontario Medical Act had been referred by the Legislature.

All of which is respectfully submitted.

J. ARTHUR WILLIAMS, M.D.
Chairman, Ex. Com.

13th June, 1892.

Dr. Williams moved, seconded by Dr. Bray, that the report be received. Carried.

Dr. Williams presented the report of the President as follows, and moved, seconded by Dr. Bray, that the report be received. Carried.

Your President begs leave to submit the following report:

1st. In accordance with the regulations of the Council, he attended and presided at the meeting of the Board of Examiners, as set forth in the report of that Board; and he must express to you the conviction, that the Examiners use every possible care in the performance of their work.

2nd. It was impressed upon him at that meeting, and emphasized by some of the Examiners, that there is great irregularity in the distribution of the pay to the Examiners in comparison to the work performed.

3rd. That the remuneration given to the Examiners is entirely inadequate to the services performed, and for the time necessarily consumed.

4th. That when Dr. Pyne is present, as he should be as Registrar, he should also be the presiding Examiner in Toronto, and the Deputy Registrar for the time being, acting in the same capacity in Kingston. That there is then no good reason why the Examiner who prepared the paper should be present, as he is not allowed to give any explanations.

5th. That if not required to be present, less of his time will be consumed, and the Council will be saved the travelling and other expenses.

6th. That the oral examinations are a severe tax, for which there is not reasonable and proper compensation.

7th. That there were at the last examination, 226 primary students and 166 finals. That, according to regulations, two Examiners must be present, and not more than eight students per hour, can be examined. This is a very severe tax upon the Examiners, and before the close of day the mental strain is such that justice can scarcely be performed by the Examiners, or hoped for by the students

8th. Your Examiners are very pronounced in their conviction that appeals ought not to be heard without the Examiner being present. That no case of appeal would be entertained in court, without both parties in the case were duly notified. That for the Council to re-examine on the application of a student, is an injustice to the Examiner, whose side is not heard, and therefore the Council or its sub-committee not having the student present cannot examine him orally, and it practically becomes a test for that student on written examination only.

9th. Your President would respectfully recommend, that this entire subject be referred to the Educational Committee with instructions to carefully examine the whole subject, and report to the Council during the present session.

Your President would further report, that because of the demand being made for the financial condition of the Council by the Legislature and other members of the profession, he asked the Treasurer to have a report prepared giving the financial condition of the Council year by year from its organization down to the present time. This report will be laid on the table at an early date.

All of which is respectfully submitted.

J. ARTHUR WILLIAMS,
President.

College Building, Toronto June 13th, 1892.

Dr. Williams—The President's report is dealing largely with matters urged upon him by the profession. It is an educational matter; and the President's recommendation is that the report be referred to the Education Committee with a view to the matter being carefully dealt with. I am quite satisfied myself it is possible to save hundreds of dollars in holding examinations, and have just as efficient Boards of Examiners as at the present time, and I think the whole matter should be carefully gone into by the Committee. I move, seconded by Dr. Bray, that the report be referred to that Committee. Carried.

Dr. Bray moves, seconded by Dr. Harris, that the Executive Committee's report be adopted.

Dr. Williams—Before this report is adopted I would like to make an explanation. In reading the report over you will observe that in addition to the Executive Committee there are a number of men in Toronto, and members of the Council as well, who were invited by the committee to be present and visit the Government with them.

This was done in this way, as I understand, there was a conference held in some informal way among the medical men who were in the House; and the outcome of that was that Dr. McKay, who was acting in our behalf in the Legislature, mainly, suggested as well as Dr. Pyne that we should bring together certain members, whom he named; I am not prepared to say whether those were named at the conference of the committee that was held at the House, or how; but it was suggested to us that we invite together certain persons that he named for the purpose of waiting upon the Government and presenting their case. As we felt at the time the matter was somewhat critical and we thought ourselves in duty bound to act in good faith with the members of the House who were acting in our behalf; and accepting that view we invited the medical men to assist us that had been specified by them. On the second occasion there was not so large a number invited; the invitations were confined here to Toronto men; and this was by decision of the first gentlemen when they were present, after consulting on the matter; it was decided then the invitations should be confined as far as practicable, to local men. At the same time we felt that we must comply with the gentlemen's wishes who were acting in our behalf in the House,

Dr. Rogers.—I think the principal involved is one worthy of the consideration of this Council. The principal is that the Executive Committee called a partial meeting of the Council, and not a full meeting of the Council, I do not find any power in the by-laws or in the Medical Act to empower them to do that. In the first place I do not say but what it was expedient; I do not say but the reason given by our late president is one well worthy of consideration; that he did what he should have done; that is, on the request of Dr. McKay, our mutual friend in the Local Legislature, it was agreed that certain members of this Council should be asked to help the Executive Committee before the Committee of the House of Assembly. I only wish to point out that such a course as that of calling a partial meeting of the Council is not authorized by either the Act or the by-laws of this Council.

Dr. Bray.—I do not wish to interrupt but I think Dr. Rogers is entirely astray. There was no meeting of the Council or prrtial meeting of the Council; there were some gentlemen, members of the Council, in their individual capacity and not as members of the Council.

Dr. Rogers.—I have said it was a partial meeting of the Council, and I said that it should have been a full meeting of the Council or a full meeting of the Executive Committee. I do not wish to be understood to be finding fault with the late president in any method he took, because I am satisfied all he did was in the interests of the profession; but I want to emphasize this fact, that it was an irregularity; that neither the Medical Act nor the by-laws empower the committee to do that. I do say if it was found necessary by the Executive Committee to have assistance from members of the Council then there was only one course open to them and that was to call a full meeting of the Council; that is always open. Each member of this Council has an equal right to attend the meetings with any other member. I have been informed by my friend, Dr. Bray, that this was not a partial meeting of the Council; if it was not a partial meeting of the Council I should like to know very much what it was. Certain members, for instance the names there are Dr. Day, Dr. Bray and Dr. Bergin and Dr. Ruttan I believe were called here at the request of the president.

Dr. Bray.—I never was asked; I was not here at all.

Dr. Rogers.—I thought your name was read out. Certain names were given; those persons not only came here at the official request of the president, but they drew pay for this meeting; there is one serious matter comes in; had they come here as friends of the Council, well and good had they come here as individual practitioners, well and good, but they were called together officially by the president of the Council which I say was contrary to the authority given by the Medical Act and by-laws of this Council; and they received pay for it. I say it was a partial meeting of the Council. I do not want to say it was not an expedient course to pursue. I do not want to say it was wrong; but I want to emphasize the fact it was not in accordance with the policy of the Council; and consequently it should not be left as a precedent of the future. This, if left unnoticed would be a precedent for the future, that partial meetings of the Council could be called by the Executive Committee.

Dr. Geikie.—I think a year or so ago Dr. Rogers was a member for he came up to attend a Legislative Committee; I think that was attended with a good deal of expense to the Council; and I never heard him say a word as to it not being perhaps wise. And I wish to point out that this report refers to a very essential work, a most important and indispensable work, for which very little was paid.

Dr. Campbell—Dr. Rogers is quite wrong, both as to what was done and as to the power exercised on that occasion. The Executive Committee by the rules of this Council have to take cognizance of any action upon all such matters as may be delegated to it by the Council or upon such as may require immediate interference and attention between the adjournment of the Council and the next meeting. The Executive meeting found their immediate attention was required in a very seri-

ous matter that came before the Legislature durthe recess of the Council; they were bound by the rules of this Council to take action upon it; and they did so; and as Dr. Williams says, following the suggestion made by their friends in the Legislature whose opinions they were bound to receive in carrying out the work they had in view, they called in the assistance of certain gentlemen connected with the medical profession throughout the Province of Ontario; some were members of the Council and some were not; and in carrying out the work of the Executive Committee any necessary expenses that were incurred were, of course, to be paid,—that is understood; where the Executive Committee does necessary work the expense involved in that work must be paid; and if gentlemen were called here to do work for this Council I do not suppose we are going to question that those gentlemen should have their expenses paid, whoever they may be.

Dr. Williams.—I would in one sense endorse what Dr. Rogers says, that no meeting of the Council should be called without every member being notified legally and properly; but I would just wish to point out that there was no meeting of the Council called, and that this meeting of members was not a meeting of the Council in any sense whatever; furthermore, that, in my judgment, the Executive Committee would be deserving of the severest censure that this Council could pass upon them if they had not acted in that matter and with the greatest prompitude as well. I think further that the very life of this Council was jeopardized in the Acts before the Legislature; and if this Executive Committee hadn't taken the matter up, and taken it up promptly and vigorously, I am not prepared to say that the Council would stand as well as it does to-day. I would say further that if the Executive Committee were taking it up at all, they couldn't do better than take the advice of the gentlemen who were acting in their behalf in the Legislature; I think if the Committee did not take that advice, and if anything had gone wrong, there is not a member in the Council who would have been quicker to censure them than the gentleman who now takes exception to our action at the present time. I believe if you turn up the Act and take the rule, as already referred to by Dr. Campbell, there is perfect authority to go into the matter and every matter that presents itself for urgency before the Council; and if you turn to the Statute itself and read Section 15, I think you will find there full provision is made for the Executive Committee acting in an emergency of that character (reads Section). I am quite satisfied, under the provision of the Statute, we had a perfect right to act, and we would have been deserving of the severest possible censure of the Council if we had not acted; and I believe we acted wisely and judiciously in taking the advice of the gentlemen who were acting on our behalf in the House; and if we hadn't done so and anything had gone wrong, I am quite satisfied the Council would have been in a position, and justly in a position to censure us for having taken any other position.

Dr. Orr.—I wish to say one word with regard to some of the statements made before this Council. At the last session of the Local House there were three or four members of the Council residentin Toronto,—Drs. Johnson, Britton, Thorburn and myself,—present at the request of the President; and we spent a great deal of time in that Local House, watching closely any of the Acts that the opponents to the Medical Council might bring forward. An inference has been thrown out to-day that we were paid for the time we devoted in the interests of the Council and of the profession. And I would say that I believe Drs. Britton, Johnson, Thorburn and myself received nothing but the one day's pay and that for the day we were requested by the Registrar to appear before the Committee in the House.

Dr. Thorburn—And we spent a week there.

Dr. Britton—Drs. Johnson, Thorburn and Orr, and myself did a great deal of work. One whole week at least was taken from our practices in the interests of this Council at the Legislature, and in other ways for the purpose of advancing the interests of the Council; and for that work we received the sum of one day's pay. I would like this statement to go on record, because it has been stated in the public papers that we have been paid exorbitantly for what we have done.

Dr. Thorburn—I would like to add a rider to that statement; I am not aware I got one day's pay, and that instead of on week I was there one month; and I had daily converse with different members on this proposed legislature, sometimes nightly converse.

Dr. Bray moves that there be added to the motion to adopt the report that the thanks of this Council be, and are hereby tendered to the Executive Committee for their prompt action and good work.

Dr. Rogers—I will move to adjourn, and I will speak on that motion.

The president called for a vote on Dr. Rogers' motion for adjournment, and declared the motion lost.

Dr. Rogers—I would like to explain. I read Section 14 of the Act differently to Dr. Williams' reading. It says the Council shall appoint annually from among its members an Executive Conmittee. The bylaws of this Council state that the Executive Committee shall consist of three persons. It further says, "that the Executive Committee shall take cognizance of and action upon,"—they themselves shall—of such matters as may be delegated to it by the Council, or such

as may require immediate interference or attention between the adjournment of the Council and its next meeting—the clear words of the Act are that the Executive Committee shall do this, and that no other member of the Council shall do it. When I characterize this as a partial meeting of the Council, that is, my reading of the bylaw and the rules; not that I want to contradict the late president of this Council, for whom I have the highest respect, but I do say, and I maintain that the clear reading of the Act is that the Executive Committee shall do that; while in point of fact, instead of doing that, they called other members of the Council to their assistance.

Dr. Campbell—May I ask Dr. Rogers to explain his explanation, whether he considers the Executive Committee are authorized to take certain action, but they must do it themselves? If, for instance, this building should meet with a catastrophe that necessitated certain repairs to be made, and the Executive Committee thought it necessary to go to work and have those repairs made according to this line of reasoning, would the Executive Committee have to do the repairs themselves, or should they employ somebody to do it; and pay that somebody for it?

Dr. Harris—I think it it most ridiculous for Dr. Rogers to come here and to speak in the manner he has in regard to the ex-president and the Executive Committee. I think, and I believe every man in this room believes the Executive Committee did perfectly right in availing themselves of all the possible help they could, not only from members of the Council, but from outside members of the profession. It is a pity so much time should be taken up by Dr. Rogers in this manner. I think he must certainly feel the same as the others do.

On the motion to adopt being put, the President declared it carried.

Dr. Bray presented the report of the Treasurer and moved, seconded by Dr. Johnson that it be handed over to the Finance Committee. Carried.

On motion of Dr. Bray, seconded by Dr. Johnson, the Council adjourned to meet again at 2 o'clock p.m., Thursday, 16th June, 1892.

Afternoon Session.

Thursday, June 16th, 1892, 2 o'clock p.m.

Medical Council met in accordance with motion of adjournment. The President in the chair called the Council to order.

The Registrar called the roll. All present except Sir James Grant.

Minutes of last meeting read and confirmed.

Notices of Motion.

No. 1. Dr. Bergin to amend sub-section 5 section 5 of announcement of 1891-92, by the following, "which appeal shall only be considered by the Council if accompanied by a recommendation of the Board of Examiners, as set forth in sub-section 10 of said section 5."

No. 2. Dr. Williams, that the Treasurer be instructed to procure 2,500 copies of financial return of the Council and that a copy be sent to each registered medical practitioner.

Petitions.

Dr. Johnson presents the petition of Drs. Geo. B. Smith, Powell, Primrose and Atcheson, with regard to one Dr. William Anderson, of London, in the County of Middlesex, dated 16th June, 1892.

Moved by Dr. Johnson, seconded by Dr. Harris, that this be referred to the Committee of Discipline.

Dr. Williams—Before that matter is referred I think in justice to the Council we should have some further knowledge than we have got at the present time, as to the nature of the charges being lain against this man. They may be very grave, but so far as this Council knows from any information that has come before it, that supposition is not correct. We don't know that it is true; and before any steps are taken the Council should be satisfied that there are grave charges laid against this man. The Act of 1887 requires that this proceeding should be looked after with the greatest possible care, that no hardship may be inflicted on any man; and I certainly think that the Council should have some knowledge of the circumstances given to them before any very prominent step is taken against him.

Dr. Rogers—Sub-section 2 of section 3 of the Act of 1887 says "the Council may, and upon the application of any four registered medical practitioners, shall cause, etc." That leaves us without option in the matter.

Dr. Moore—I quite agree with the remarks that have fallen from Dr. Williams, that this Council should know something more of the charges that have been made, something more of the case we have before us, that no hardship may be done; I think we should not rush into those things blindly, and I think it would be wiser probably for the advertisements referred to be read.

At the request of the Council the Registrar reads advertisement, "The doctors are coming to Toronto. First three months free of charge. A staff of eminent physicians and surgeons will arrive in the city next Monday, Nov. 23rd, and permanently locate at their residence 272 Jarvis Street, near Gerrard, etc. Hours from 9 a.m. to 5 p.m. and 7 to 8 p.m."

"The doctors have arrived. First three months free of charge. The staff of eminent physicians and surgeons have arrived and are permanently located at their residence, etc."

The Registrar also read the report attached.

The President put the motion to refer the petition to the committee and declared it carried.

Dr. Harris presented report No. 1 of the Education Committee and moved, seconded by Dr. Rogers, that the report be received. Carried.

Dr. Bergin moves, seconded by Dr. Fulton, that the report be read. Carried.

Registrar reads report.

Moved by Dr. Harris, seconded by Dr. Rosebrugh, that the Council go into Committee of the Whole upon report No. 1 of the Education Committee. Carried.

Dr. Miller—I think it would be well to have it understood that the stenographer should report the proceedings in the Committee of the Whole.

Dr. Bergin in the chair.

Report read clause by clause.

Dr. Gilmour, M.P.P., was here introduced to the Council and requested to take a seat upon the platform.

Dr. Ruttan—(Speaking to first clause of report) I think this is a matter of very great importance and that we should be very careful of the individuals who are placed upon that Committee. We do not want any body there that is interested in this or that school. We want a fair representation from the profession in Ontario; and not school men in particular. And, furthermore, the Medical Association, as a whole, is a liberal profession. A medical man who is qualified to practice his profession in any one of the Provinces of Canada, should have a right to practice his profession in the whole Dominion of Canada. It is not like the legal profession, because in Lower Canada they have the French code of laws and a different code in Ontario; and therefore they require to serve a certain apprenticeship or study in these several Provinces in order to qualify themselves to practice within these Provinces, but it is not so with the practice of medicine; a medical man is a medical man wherever he may go. We have in this country the humiliating spectacle that each of the Provinces has a Board of its own, and no matter how well qualified a physician may be if he is living in the Province of Quebec he is liable to fine if he crosses the line to practice in Ontario; and it is the same with a physician living in Ontario who crosses to practice in Quebec; go further west and it is the same, out to British Columbia; no matter competent a physician may be; no matter how high his standing may be, he cannot go into British Columbia from Ontario and practice his profession without submitting himself to the humiliation of an examination; and that examination may, perhaps, be before examiners who were his own pupils in the schools in Ontario and Quebec. There should be something very different fixed with regard to this matter. There are just as competent medical men in Quebec as in Ontario; and just as competent men in Ontario as in Quebec; there is not a whit difference between them; it is a mere sectional affair. The principal parties who are interested in this matter are the schools. On that account I object in committee to any man interested in any of these schools belonging to that committee, and I hope this matter will be taken seriously into consideration. For my own part, I feel very largely interested in it; and I think the profession as a whole is largely interested. We are driving our own men out of the country by this kind of legislation which I say is no benefit to the profession or the public, but that the principal parties interested in it, there is no doubt, are the schools.

Dr. Harris.—I wish to say one word to correct an impression Dr. Ruttan has got. The Committee is composed of the Education Committee, together with the President. There is only one man representing a school on that committee, and that is Dr. Thorburn. so for as I am concerned I represent a university; Dr. Moore represents a university, and Dr. Logan is also a representative of a university; the rest of the commitees are territorial representatives.

Dr. Henry—I think it might be better for the chairman of the committee to give us some information on which he is recommending that this committee be sent down to meet the others. I do not know that there are any overtures made.

Dr. Philip—I having been connected with the Finance Committee, would like to have some information about this; it is obscure in the nomination—it states the president and members of the Executive Committee shall form a committee, etc.; and states the Registrar shall write to them, and ask them to meet this committee at the City of Ottawa on the 20th of September; I want to know from the chairman of the committee, when he gives his information, how this committee is to be paid. We have had committees of this Council in the past, and some of them very innocent looking at their establishment, but when it is all over and the bill is sent in, there is a great big bill to be paid by the Ontario Medical Council. I myself object to the committee being formed unless the financial aspect of the matter is understood. If there is a small committee I myself am in favor of having a committee to meet the committees from the other Provinces, on registration. I would not object to a small committee consisting of the President, and perhaps one or two members to meet this deputation; but unless there is a very clear explanation as to whether that committee is to receive muneration, and if so, how they are to be paid, I shall object to that clause in committee.

Dr. Thorburn—I think Dr. Ruttan's idea is a very good one, that there should be reciprocity between the different provinces, in reference to the power to practice, and so on; that should not

be, however, like the handle of a jug, on one side; and we flatter ourselves, rightly or wrongly, that the standard we have established in Ontario stands prominent, not only in this Dominion, but perhaps, in the Anglo-Saxon world. And for us to give our rights to Quebec or the other provinces whose standards may be comparatively high (I don't know as yet that they are, in fact it is impossible for some of them to have an equal standard to us), I think would be folly; I think we should be very cautious in meeting delegates from other provinces until we can equalize our standard. In reference to Dr. Ruttan's remarks about school men, I think they are rather ungenerous; the school men have heretofore shown that they have a liberality not surpassed by the territorial men; they have always been anxious to do what is straight and fair; and as my friend the Dean from Trinity says, I am not a teaching man now; I have got beyond that, and I am merely an honorary man, and I can afford to be straight and square; I have no pecuniary interest, and I think we should hesitate before we come to terms of reciprocity with the other provinces; at the same time I have no objection that there should be a committee to meet these other parties, if so desired; the expense, of course, is a matter of very considerable importance; I do not think the profession have any right to expect men to go from different parts of the country to Ottawa, and attend meetings there, and lose their time for nothing; if it is worth having, it is worth paying for.

Dr. Geikie—I like the remarks of the chairman of the Finance Committee. We want to know what the thing is going to cost. I am a Scotchman, and I believe in knowing what we have to pay. It is very nice to have reciprocity, of course, but we have to be careful that we don't commit a *faux pas*; I think if a small and carefully selected committee could be constituted, with definite instructions—keep out the hateful school men if you like; although I am one of the school men, I would endorse what Dr. Thorburn has said; we have been aspersed as anxious to do all sorts of things, and I would like, as it has been brought up, to emphasize, that, perhaps, the school men have been amongst the most single-minded, and most straightforward men in promoting the interests of the profession—at least as much so as any in the Council; I don't say more so, but quite as much as if we had come from a territorial district. I sincerely hope we will have a small committee, and that the committee will receive definite instructions; and that it will not be landed in a large amount of expense for something that may accomplish no good. I know its promoters desire it should, but they may not accomplish, perhaps, as much as they expect.

Dr. Harris—In order to give the fullest information I would have to go over a great many papers but, but I can give it to you in brief; yesterday in committee I read different communications from the different registrars from the different provinces; take for instance the Province of Quebec; Dr. Campbell writes, they have appointed a committee to confer with the committee of the Ontario Medical College, suggesting perhaps, the first meeting may take place in Toronto; that if another meeting was required it might take place in montreal. We have also communications from Nova Scotia, Prince Edward Island and Manitoba; Manitoba is about the only province that seems to be very independent in the matter; I have a paper from Dr. Patterson, of Manitoba which states that they do not seek reciprocity, but are willing to grant it under certain conditions; that is if we brought our standard up to theirs they would grant it.

Dr. Day—They are perfectly right.

Dr. Harris—Quebec seems anxious to have it. I cannot give you any further information. There seems to be a general feeling, and I think the committee will bear me out in that, throughout the Dominion to have reciprocity with the other Provinces and Ontario. Dr. Philip has spoken about the cost of this committee to Ottawa; in reply to that I will first say, that so far as I am concerned I don't know whether I will be in Ottawa or not, but the feeling I have in the matter, is that the Canadian Medical Association will meet there on the 20th September, and Dr. Bray, a member of this committee, is President of the Association and he will certainly be there; there are other members, such as Dr. Moore, who will likely be there. I really do not wish to see the Council put to any expense in this matter at all. If this report is adopted as it stands, it undoubtedly will saddle the Council with the members' fees there, but I would suggest that it be adopted adding a rider to that in amendment.

Dr. Day—I would simply suggest, I will not move in amendment, that Dr. Logan lives in Ottawa, Dr. Bray will be there, Dr. Moore will be there and Dr. Rogers is living there and I think those gentlemen are quite competent to get the ideas of any representatives that may be there from other provinces, and report to this Council as the motion directs. If you take the report as it stands there it means a committee of ten, nine of the Education Committee, and the President of the Council.

Dr. Rosebrugh—The President and the Vice-President both; they are members of all committees.

Dr. Day—This resolution says the Education Committee and the President; that means, on the regular lines of payment, $135 a day for whatever number of days they are there, and travelling expenses. I think we should be a little cautious; we have been going a little fast on expenses, and

I think if this first consultation with the other representatives could be had without any great amount of expense, it is all right, but I do not think this Council should be put to any expense in the matter; I do not think it is worth the money we would expend if we sent a large committee and paid them per diem. I do not think the information they would receive from it would be up to the value of the amount we would spend.

Dr. Bray—I was very much interested in the portion of the report referring to reciprocity. I have to be at the meeting in Ottawa; and Dr. Moore has to be there; Dr. Logan is there and some other members of the committee no doubt will be there. I would suggest that the committee should receive no pay at all; and let those members of the Education Committee who do not want to come, stay away; there will be enough members there I fancy; as Dr. Day has said, and I proposed in the Education Committee, the committee spoken of should be formed at no cost to this Council.

Dr. Harris—I was certainly under the impression that it would not cost anything, although it is not so stated in the report.

Dr. Day—I would suggest that the report be amended to read "that the committee be composed of the President, and such members of the Education Committee, and such other members of the Council as may be there at the time of the consultation.

Dr. Bergin (in the chair)—The gentlemen going to Ottawa are going to attend the Dominion Medical Association, and ought not to be paid their travelling expenses by this Council.

Dr. Bray—That is the reason why I proposed Ottawa, because there will be members from every Province there. It would be very expensive for the British Columbia Council to send a committee here, or for committees to be sent from Manitoba or Nova Scotia; as it is the men taking an interest in this matter will naturally be there; and it will not or should not cost any Province anything; and that was my object for having the meeting at Ottawa; I do not wish to receive, and will not receive a cent myself; and I am sure the other members of the Association will do the same as I do.

Clause of report adopted as amended.

On motion of Dr. Harris the committee rose, and the President resumed the chair.

Dr. Harris presented the report of the Committee of the Whole, adopting report as amended.

Dr. Harris moved, seconded by Dr. Rosebrugh, that the report as amended be adopted. Carried.

Dr. Miller presented a report of a scale of fees adopted by the medical practitioners in Hamilton for the Burlington and Home District, and moved, seconded by Dr. Campbell, that the report be received and referred to the Committee on Rules and Legislation. Carried.

Moved by Dr. Moore, seconded by Dr. Rogers, that owing to the large amount of business coming before the Council, that a night session be held. Carried.

The Registrar read a communication from Dr. Primrose, of Toronto, asking for an interpretation of certain clauses in the curriculum. Referred to the Education Committee.

Dr. Bray moved, seconded by Dr. Britton, that the Council now adjourn to meet again at 8.30 p.m., Thursday, 16th June. Carried.

EVENING SESSION.

Thursday, June 16th, 1892, 8 p.m.

Medical Council met in accordance with motion of adjournment, the President in the chair, called the meeting to order.

The Registrar called the roll. All present excepting Sir James Grant.

Minutes of last meeting read and confirmed.

NOTICES OF MOTION.

Dr. Rogers, *re* amendment to the Medical Act, 1874, in certain particulars.

Dr. Britton presented a petition of Dr. Geo. B. Smith and others, *re* Dr. S. E. McCully. Referred to Discipline Committee.

On motion of Dr. Moore, seconded by Dr. Harris, the Council adjourned to meet again at 10 a.m. Friday, 17th June, 1892.

FOURTH DAY.

Friday, June 17th, 1892, 10 a.m.

The Medical Council met in accordance with motion of adjournment. President in the chair. The Registrar called the roll, all present excepting Sir James Grant. Minutes of last meeting read.

NOTICES OF MOTION.

No. 1. Dr. Henry—That the re-arrangement of territorial divisions be referred to the Committee on Legislation.

No. 2. Dr. Rogers—That a circular be sent to every member of the College, together with a copy of the Medical Act, for 1891.

No. 3. Dr. Miller—That the Finance Committee be requested to furnish a statement showing,

1st. The cost up to date of the building known as the Medical Registration office, at the corner of Bay and Richmond Sts.

2nd. The amount paid up to June 1st, 1892.

3rd. The amount of indebtedness on the 1st, June, 1892, etc.

4th. The amount of revenue received from rent from year to year.

5th. The estimated amount of revenue provided all the offices in the building were rented.

Moved by Dr. Campbell, seconded by Dr. Johnson that leave be now granted to introduce a by-law to carry out the provisions of the Act passed in 1887 entitled "an Act to amend the Ontario Medical Act." Notice of which by-law has been given. That the said by-law be now introduced, be read a first time, and referred to a Committee of the Whole. Carried.

Dr. Bray in the chair.

The bill was read, clause by clause, and the second and third clauses adopted.

After the reading of the fourth section Dr. Campbell moved that the blanks be filled with the names of Dr. Day, of Trenton, Dr. Logan, of Ottawa and Dr. Bray, of Chatham, the present members of the Committee.

Dr. Rogers—I think it does not necessarily follow that we should have the same members on the Committee this year. I have no personal objection to any member of the committee, but I beg to move that Dr. Bergin's name be substituted for the name of Dr. Day. I do not mean anything of a character which may be taken as unpleasant, but I think, taking all things into consideration, that it would be advisable in appointing a new Committee this year to substitute Dr. Bergin's name for Dr. Day's.

Dr. Harris—If you have any reasons for suggesting that you had better give them.

Dr. Miller—Why not move a new committee altogether.

Dr. Williams—I think it is only reasonable that the names should be taken up one at a time, to allow the Council to pass upon them; that might be done and might result in a new committee or in the old committee; but if the names were brought up one at a time, the Council would have an opportunity of passing upon each. So far as the names proposed are concerned, my own feeling is, I would stand by the old man,—that is the chairman we had before, Dr. Day; in so distinguished a manner did he conduct himself before, that some of the legal men who appeared before the Committee did not hesitate to say to the members of this Council that he was equal to a Chief Justice. A man who gains such distinction as that before members of the legal profession who are in the habit of appearing in some of the most important courts in this country, I think we ought not to set aside, without some very important reason being given; and, as far as I am concerned, I will stand by our Chief Justice in that mather.

Dr. Campbell moved, seconded by Dr. Harris, that the first blank in the by-law be filled with the name of Dr. Day, of Trenton.

Dr. Thorburn—I would like to say a word in corroboration of what Dr. Williams said; he says Dr. Day got the name of Chief Justice of the medical profession; but I heard more than that,—that Dr. Day not only had the law but the physical force, and he was able to enforce both. I think that gives him a double claim to reappointment.

Dr. Rogers—I quite agree with the manner in which Dr. Day performed the duties of chairman of the Discipline Committee, but while I agree with that entirely, I think even Dr. Day will admit one thing, that he has now, I believe, accepted and acts in the very important and honorable position of Registrar of the county, and has left the practice of medicine altogether.

Dr. Day—No, I have not.

Dr. Rogers—If I have made an error I certainly wish to withdraw what I said altogether; but that is the impression given me, that Dr. Day has left the practice of medicine and given his time to the work of Registrar of the County and is now outside of the profession. I think to be the chairman of such an important committee whose duty it is to try a brother practitioner, he should be at least a practitioner himself.

Dr. Phillip—I submit that Dr. Rogers is out of order, in not speaking to the point. Dr. Day, there is no question, is a member of this Council so that he is capable of being put on the committee. I do not think we should occupy the time of this Council with such trifling things as that; and I ask the ruling of the chairman on that point.

Dr. Bray—I think Dr. Rogers is out of order but I will put the amendment, that the name of Dr. Bergin be substituted for that of Dr. Day.

Amendment lost.

On a vote being taken on the original motion it was declared carried.

Dr. Campbell moved, seconded by Dr. Philip, that the second blank be filled with the name of Dr. Bray of Chatham. Carried.

Dr. Campbell moved, seconded by Dr. Johnson, that the third blank be filled with the name of Dr. Logan, of Ottawa. Carried.

The chairman then proceeded with the reading of the balance of the report clause by clause.

The committee arose.

The president resumed the chair.

Dr. Bray presented the report of the Committee of the Whole. Adopted.

Dr. Campbell moved, seconded by Dr. Bray, that the by-law be read a third time, passed, numbered and signed by the President and sealed with the seal of the College of Physicians and Surgeons of Ontario. Carried.

Reports of Special Committees.

Dr. Day presented the report of the Discipline Committee, the petition against Dr. Samuel E. McCully, and moved, seconded by Dr. Bray, that the report be received and filed. Carried.

Dr. Moore presented the report of the Printing

Committee and moved, seconded by Dr. Bray that the report be received. Carried.

Moved by Dr. Moore, seconded by Dr. Bray, that the report be adopted. Carried.

Dr. Hrrris presented the second report of the Education Committee, and moved, seconded by Dr. Ruttan, that the report be received. Carried.

Dr. Bray moved, seconded by Dr. Harris, that the Council go into Committee of the Whole.

Council in Committee of the Whole. Dr. Britton in the chair.

Dr. Harris moved, seconded by Dr. Ruttan, that the report be read clause by clause. Carried.

After the reading of the first clause Dr. Henry said, in regard to the second examination, we gave the privilage to the students two years ago to come up to that examination in September; I approve of that examination and I think it necessary to the interests of young men; but we gave them that privilege and they did not take advantage of it; and we found the cost of the examination was very extensive; and it was dropped. I have an amendment on that clause, "That the spring examinations be held annually on the second Tuesday in April, and a fall examination on the second Tuesday in September, provided a sufficient number of students make application to the Registrar two months previous, and that the fees for such examination be sufficient to cover all expenses, otherwise the said examination be not granted." The fact of having to make application to the Registrar two months previous to the time will put him in position to know whether there will be a sufficient number, and whether the money paid will cover expenses.

Dr. Williams—In that clause of the report there are several propositions, and if it is thought well to amend the clause at all, each proposition had better be taken by itself, because some persons might favor one proposition and not the whole; and if it is not carried *en bloc*, but it becomes necessary to take a vote, it had better be subdivided and taken item by item.

Dr. Day—I would suggest that so far as the fall examinations are concerned that in the amendment you simply move that after the words "fall examination," there be interlined "provided enough applications are made two months beforehand to warrant the Registrar in believing the examination will be self-sustaining."

Dr. Harris—It is proposed to change the fee from $10 to $20. You notice in the second clause of that report it reads "that in clause 4, section 4, the word ten be changed to twenty"; we thought this would be a fair compromise. There are a great many appeals laid before us, and many members of the committee thought it was not at all advisable to re-read papers or interfere with the examiners; we thought it would be a fair compromise to have fall examinations and give those students who failed at the spring examination an opportunity of going up and trying again; and the fee of $20 we thought would be adequate for the examination. We do not reccomend the examination shall be held in Toronto and Kingston both, but simply at Toronto, and that would lessen the expense.

Dr. Henry—Have you any guarantee that the students will come up to that fall examination? We expected before that they would put in an appearance, but they objected to the fee.

Dr. Britton—I asked the Registrar how many came up last time, and he stated that some hundred odd applied for a fall examination but that only some forty-three came up. I asked him "Could we reasonably expect twenty-five this time?" And he said, "Yes, more than twenty-five." I asked, "What it would cost for the examination?" And he said, "Some were about $500 or 600, not very much more." I should think from that we have a fair guarantee that the expense will be covered by the fee of $20 each.

Dr. Henry—Acting on this information I will withdraw my amendment.

Dr. Miller—If that amendment is withdrawn I beg leave to move another which provides that professional examinations be held in Toronto and Kingston, on the second Tuesday in each and every year, and also in Toronto on the second Tuesday in September, in each and every year; and that due notice of such examination shall be given by the Registrar. I think there should be some stability about this matter. I think one principle which has been adopted by this Council is a correct one, namely that there should not be an appeal by a student from his examiner to this Council. In order to show to the students that we have no desire to deal unjustly by them, that we are anxious that they shall have every opportunity of presenting themselves for examination, that there is no intention on the part of the Council to debar them from such privilege, and we provide that in each and every year, there shall be two examinations, not a supplemantal examination, but two regularly appointed examinations in every year. It may be that some students, after their hard work during the winter, may be unable to present themselves in April, and it would, I think, be a hardship for a student situated in that way to be prevented from coming up for his examination for a year. Again, providing a student passes a fairly good examination on all subjects except one, it is not fair that he should be kept back a year, and more particularly when we prevent any appeal being had from the student to the Council, as to the mode of his examination. We say, instead of that, we will offer you the opportunity of coming up at a regularly appointed examination in September, in each and every year.

These are my views why we should have two examinations in each year.

Dr. Fulton—I will second that motion.

Dr. Philip—I think the policy recommended by the Education Committee for this year a good one; that is, to have an examination for this year in the fall. Having the fall examination at one place, say Toronto, and not at Kingston, would save a vast deal of expense and would not be an injustice to the students; if they wished a supplemental examination they could go from all points of the Province. I am in favor of a spring examination both in Toronto and Kingston, but I do not think the examination in the fall should be held in both places.

Dr. Williams—I fully accord with the remarks made by Dr. Philip; but while that is true, we know there is at least, about one half of this Council are of the opinion that one examination a year is enough. We have received this year the assent of at least all the Education Committee that this year it is better to have the two examinations; those of us who are in favor of having two examinations always, should not hesitate to accept that step, and when the next year comes let the next year stand upon its merits, but we had better accept the step, now that it is in our favor, and have the two examinations for this year.

Dr. Harris—I think the motion of Dr. Miller is all right in a way; but I believe the clause in the report is a better one at the present time; and Dr. Miller's motion is one that can very properly come up at the meeting of the Council in June, 1893. In our report we provide for an examination in the spring, both in Toronto and Kingston; and we make a special examination this fall; we do not call it a supplemental examination but a special examination and we charge a fee of $20; in Dr. Miller's resolution he says nothing at all about the fee.

Dr. Miller—I understood your report further on dealt with the question of fees, and that was the reason I said nothing about it in my resolution, and the reason why I framed my resolution as I did. If a student comes up for examination who has failed, that clause will meet his case; he will have to pay a fee of $20, while a student who presents himself at the September examination, and who did not come up in April, pays the $10 fee as provided by the curriculum.

Dr. Bray—I quite agree with the views of Dr. Miller; I believe we should have two examinations a year, but at the same time, I doubt very much if we have power to legislate beyond a year; and I think if we have this examination this year, and the regular examination next year, it will be a step in the right direction. I quite agree with the remarks Dr. Williams has made; and I think it is better for those in favor of two examinations a year to accept this report of the committee now, because I do not believe this Council has power to go beyond a year.

Dr. Miller.—In reply to Dr. Bray, I would say, why give any of our proceedings at all the character of stability? Why adopt a curriculum which we hope will continue to be in existence for years to come? I fail to see why we should adopt a temporary expedient, a temporary arrangement in a matter of this kind, when we ought, above all things, to make this as permanent as possible in order that the young men studying may know what they may depend upon; if it comes to be understood by the students and by their teachers that we adopt certain rules and regulations and that they only prevail for a few months following their enactment, then we will be giving to our rules and regulations and our curriculum, a character which I think should not attach to it; and for that reason I have moved the resolution which I have, because I believe the curriculum which my learned and esteemed friend on the right (Dr. Bergin) succeeded in passing last year is a curriculum which was intended to have a character of permanency about it, and this being a portion of it I should like it to be in the same position, not to imperil one part of the curriculum more than another.

Dr. Day—For the present year this is all right, as right as it can be; I am living in the faith of a permanent fall examination, but that is not a question necessary to speak upon just now; so far as this year is concerned, the fall examination is provided for. I think this supplemental examination should be self-sustaining, because I don't know that the Council is in a financial position to say we must have a fall examination, whether anybody comes up or not; I think we could not very well carry out that view. We talk about making this permanent. We have no power to say there shall be an examination at all after a year from now; next year we may change all this. Two years from now, at any rate, there will be a new Council, that all the permanency this Council could possibly give would be for 1893 and 1894; we could simply express an opinion that it ought to be permanent, in fact, there is no motion in that direction which we may pass now that may not be all upset before we get through this session. I think it is quite unnecessary to have these permanent examination views. We are saying they are permanent in each and every year, but we have no power to say that before we leave here to-morrow night the whole thing may not be changed. Therefore I think it is much better it should stand as the committee have left it.

Dr. Fowler—There is a financial question connected with this examination which I think has not been alluded to by any member of the Council. that is in regard to the fee. In the announcement which has been published for some time, the the fee for these extra examinations has been

placed at $10; and my impression is unless we make this fall examination a special one that we have no right to charge more than $10 for it." In making it a special examination I think we can charge the $20, but I question very much after our announcement that the fee for extra examinations shall be $10, if we can change it except by making this a special examination.

Dr. Philip—In view of the explanation that is made by Dr. Fowler, if the proposer will allow me, I will withdraw my seconding of the resolution.

Dr. Rosebrugh—It says "each student shall pay $20 for each subsequent examination." I agree it is perfectly right they should pay $20 for the special examination this fall, but if one or two or three failed to pass that and came up next spring again in the regular way, I do not think they ought to be charged the $20 for the spring examination.

Dr. Miller—I will move that clause of the report of the Education Committee be amended by providing that a professional examination be held in Toronto and Kingston on the second Tuesday in April, and in Toronto on the second Tuesday in September.

On motion, the first clause of the report was adopted.

Dr. Moore.—I move in amendment that section one, clause one, page twelve of the regulations, be amended by striking out the following words found in the fifth and sixth lines, "with the prescribed science course added and compulsory," leaving the clause to read "every one desirous of being registered as a matriculated medical student in the register of this College, except as hereinafter provided, must, on and after the first day of November, 1892, present to the Registrar of the College, the official certificate of having passed the pass university departmental matriculation examination, whereupon he or she shall be entitled to be so registered upon the payment of $20, and giving proof of identity." I said yesterday, and the day before, that the way this section was worded, it was unintelligible. We had this up for discussion in the Education Committee last night, and in order that we might prove whether it was really intelligible or whether it was advisable to leave it in this form, it was moved that the opinion of the Deputy Minister of Education be obtained; and I obtained that opinion this morning. I went to the Deputy Minister's office this morning and took the announcement, together with this circular form of theirs, and laid the announcement open before him and asked him to read this, which he did. I then asked him his opinion as to what this "prescribed science course" really meant; and asked him to give his written opinion, which he gave as follows: "Toronto 17th June, 1892, Dr. V. H. Moore. In reply to your communication of to-day, I may say ft would not be practicable to modify the requirements for matriculation in Arts so as to have the optional subjects to correspond with the compulsory additional subjects of science prescribed for matriculation in medicine. As you will notice, there is no science prescribed for university matriculation; a time paper for the July examination is arranged so as to present no difficulty to intending matriculates. It would not be possible to modify the present course of study so as to change the work in the high schools to suit the comparatively few students intending to take up medicine. I might suggest it would, perhaps, be better to have your requirements worded somewhat differently, say, "the departmental matriculation examination in Arts, and in addition, if not included, physics and chemistry."

I have also another letter from a gentleman whom a great many of you know, Mr. J. E. Hodgson, the High School Inspector, dated June 17th. "Referring to the subject of our conversation this morning, I have to say that unless the matriculation examination of the Medical Council is made to harmonize with the Arts matriculation in universities, the working of high schools will be materially interfered with by the necessity of providing extra classes for a relatively small number of pupils." This is the opinion of both the Deputy Minister and Mr. Hobson, the High School Inspector, who has had a great deal of experience. Therefore, it seems clear to me, as I said before, this is unintelligible to a certain extent; and it is unworkable; and if you leave it as it is, it is going to interfere with the workings of the high schools and collegiate institutes; and as the Minister informed me, a student in order to take this course would have to first matriculate in Arts, and then to take whatever we might fix upon as the science course at a subsequent date. It seems to me, under the circumstances, we ought to work on the lines of the Education Department, and on the lines of the University; and I therefore move this amendment, believing it is in the best interests of the profession, of the students, of the public, and of the high schools, and in the best interests of the educational institutes of the country. I feel if we press this we will have the very same difficulty arising that arose during the last year; the clause was so unintelligible, that the head masters of collegiate institutes and high schools could not understand it. I could not understand it. The professors in Queen's University could not understand it. I am lead to believe our Registrar could not understand it. Then why should we leave anything upon our record as to a portion of our matriculation examination that would not be intelligible and easily understood by every intending medical matriculate. I submit that the best way is to make it the "pass university departmental Arts examination."

Dr. Harris—We intended to have this matter

up in committee to-day, after having heard the views of the Minister, and then report on it. I have no objection to Dr. Moore adding that, because it is part of the same clause really that was intended to be left over.

Dr. Rogers—I submit this is out of order; this report simply specifies the date. We are now discussing only the report brought in by the Education Committee which says that the word "July" shall be changed to "November"; we are not discussing the terms of the matriculation; that has not come before the committee yet; we will report on that, but surely it is out of order before we have had a chance to report on it to discuss it here. Another thing is it was decided in the meeting of the Education Committee last night, and Dr. Moore was there, that we should ask the Deputy Minister of Education to come down to that committee and to give us information. In good faith we took that stand, and in good faith we left it; we did not report on it; and now Dr. Moore, without giving the committee a chance to consider it, brings forward an amendment which I say should be ruled out of order as it is not before the committee; and I ask the chairman's ruling upon it.

Dr. Geikie—It is a pity to waste time on technicalities.

Dr. Britton—I think as an addition to this clause, the amendment is in order.

(To be continued.)

Selected Articles.

ON PREVALENT THERAPEUTIC INCONSISTENCIES IN MEDICAL PRACTICE, ILLUSTRATED IN CURRENT MEDICAL LITERATURE AND IN CLINICAL OBSERVATIONS.

To gain a correct knowledge of the morbid processes capable of taking place in the human body and the laws by which they are governed, on the one hand, and an equally correct knowledge of the action of remedial agents, on the other, are the two great leading objects of every thoughtful and conscientious physician. Without the first, he is incapable of seeing clearly what he needs to accomplish in the treatment of any given morbid condition or disease; and without the second, he is equally in doubt as to the particular remedy best adapted to the accomplishment of the changes desired; and in consequence he is obliged to prescribe empyrically such remedies as are recommended by his teachers or authors.

For instance, if he regards any given case of fever as simply increase of heat or pyrexia as its chief pathological element, without any definite knowledge as to whether such pyrexia has resulted from increased activity in the processes of heat production or a diminution of those of heat dissipation, he will have no guide as to which of the antipyretic remedies is best adapted to the case before him.

Or, if he has learned to discriminate correctly the special morbid processes by which the pyrexia is sustained, but has neglected to study the *modus operandi*, or mode of action of such remedial agents as are known to reduce animal temperature, he is equally in doubt and as liable to choose the wrong therapeutic agent as the right one.

The inadequacy of time hitherto devoted to study in the two directions just named, and the consequent incompleteness of knowledge concerning both morbid processes and the action of remedies, has caused our medical literature to be filled with the most confused and even contradictory statements concerning the application of remedies in the treatment of disease; and sometimes even attributing to the same remedy qualities so diverse as to be incapable of rational explanation.

Opium and alcohol furnish striking examples of the latter. Thus, in that well-known standard work, The National Dispensatory, we are informed that, "alcohol applied to the roots or stems of plants destroys their life. It is poisonous to every animal, producing local or general anæsthesia, according to the mode of the employment. Applied to the trunk of a nerve it paralyzes all its branches, and to the brain it impairs sensation and voluntary motion. * * Taken internally, in small quantities appropriately diluted, it excites a sense of warmth in the stomach, and, if the person is very susceptible, an almost instantaneous glow throughout the body, etc. * * In larger and intoxicating doses, alcohol occasions such symptoms for a shorter time, but speedily induces a state of impaired perception and motor power, which is followed by one of total insensibility and unconsciousness, in which the phenomena are those of congestion of the brain, and usually of the whole capillary vascular system, although the latter sometimes gives way to coldness and pallor." Yet, on the next page of the same work, the same substance is represented as "stimulating the exhausted nervous system and thereby exciting the distended capillary blood vessels to contract," and as under certain circumstances acting as food. And again that "in the form of distilled spirits, alcohol is the universal and familiar remedy for *debility of every kind*, whether it be due to exhaustion produced by shock or fatigue, or shown by syncope arising from a nervously feeble or an exhausted heart, to wasting chronic disease, or to the tissue destruction of acute febrile affections."

How any material substance can possess such properties as to be capable of diminishing the

sensibility of the whole nervous system, of impairing the oxidizing power of the blood-corpuscles, of lessening metabolic changes in all the living structures, and by contact absolutely poisonous or destructive to both vegetable and animal life; and yet be capable of "stimulating the exhausted nervous system," of becoming real food, and of exhibiting such ubiquitous tonic powers as to constitute a universal "remedy for debility of every kind," is certainly beyond the comprehension of an ordinary mind.

One of the most influential causes of confusion and failure in the application of remedies in the treatment of disease, is the long-continued custom of classifying or rather grouping of remedies in reference to their influence over some one prominent symptom of disease, instead of on their real mode of action in the system. For instance, we group together all remedies capable of efficiently reducing animal heat and call them antipyretics. Hence, we find under that name sponging, packing, and bathing with water, the exhibition of quinine, salicine, antipyrin, acetanilide, phenacetin, digitalis, etc.; and not unfrequently we see nearly all of them given in turn to the same patient during a single run of continued fever. Yet there is no fact within the domain of therapeutics better established than that antipyrin, phenacetin, and all the recently constructed coal-tar series of antipyretics, so modify the hemoglobin of the blood as to lessen its conversion into oxyhemoglobin, and, therefore, lessen the conveyance of the oxygen from the pulmonary to the systemic capillaries, and thereby diminish temperature by diminishing tissue metabolism and the sensibility of the cardiac, vaso-motor, and respiratory nerve centers.

In other words, they diminish the internal respiration by which oxygen is carried from the pulmonary to the systemic capillaries and carbon dioxide returned, and in the same proportion they diminish nerve sensibility and natural molecular and secretory action. Therefore, they reduce temperature principally by depressing all the processes by which heat is naturally evolved. On the other hand, the use of water by sponging, packing, or full baths, increases the activity of the nervous centers and of the natural secreting structures and actively reduces the temperature by increasing the processes of heat dissipation. Thus, while both series of remedies are called antipyretic, they produce their antipyretic effects by influencing the cardiac, vaso-motor, and respiratory functions in nearly opposite directions. And yet, we have often found the practitioner daily administering both kinds to the same fever patient for one or two weeks in succession.

Another cause of much inconsistent and even contradictory use of remedies in the treatment of diseases, is the failure to maintain a clear line of distinction between tonics, stimulants and anæsthetics. Correctly speaking, a *tonic* is an agent that is capable of increasing the tonicity, strength and natural efficiency of some one or all of the structures of the body. A *stimulant* is one that simply increases the excitability and rapidity of action. An *anæsthetic* is one that directly diminishes both sensibility and action, either local or general, according to the method of its use. Within certain limits, it is evident that tonics and stimulants may co-operate in their action on the structures and functions of the living body at the same time; while the action of an anæsthetic is directly antagonistic to both. And still, some of the most familiar and extensively used anæsthetics are spoken of and used as stimulants and tonics both in and out of the profession, and often given alternately with the latter, to the same patient from day to day. Both in standard works on practical medicine and in the periodical medical literature, we find iron, quinine, mineral acids, cod-liver oil, wines, distilled spirits, ammonia, camphor, etc., enumerated as general tonics and stimulants, adapted for the promotion of strength and nutrition. And in referring to special cardiac tonics and stimulants, strychnine and alcohol almost always head the list, followed by digitalis, strophanthus, convollaria, cactus, musk, oxygen, etc. One eminent teacher and writer on practice of medicine says in regard to lobar pneumonia, the two chief sources of danger are "*heart-insufficiency and high temperature*," and he adds that "alcohol, judiciously used, is the most efficient means for overcoming" the first, and the sulphate of quinine in moderately antipyretic doses, the second. Another writer in the January number of *International Clinics*, 1892, formulates the treatment of catarrhal pneumonia in children under the following heads: 1. Fresh air. 2. Relief of pain. 3. Stimulation. 4. Treatment of complications. Under the first head he very properly insists on the most free and efficient ventilation of the sick room, that the patient may have constant access to *fresh* air. For relieving pain he condemns the use of opiates as dangerous in such cases, and relies on simple emollient poultices to the chest. For *stimulation*, he says: "We stimulate by the constant administration of alcohol; fifteen, twenty, twenty-five drops, or a teaspoonful of whiskey, according to age, every two hours." In several very recent numbers of the *British Medical Journal*, correspondents have detailed a number of cases of extreme depression and cyanosis in pneumonia treated with strychnine and oxygen inhalation, and at the same time giving brandy or whisky between the inhalations. Each inhalation revived and improved the aspect of the patient, only to be quickly replaced by the cyanosis and finally the death of the patient. One case came under my own observation, in the treatment of which the attending physician was diligently ad-

ministering oxygen by inhalation and brandy, both by the mouth and rectum. And very many times during the last ten or fifteen years I have seen patients in the second, third, and even the fourth week of typhoid fever, who were diligently taking day after day, antipyrin, acetanilide or phenacetin to reduce the temperature; strychnine and mineral acids to increase innervation or nerve sensibility; and wine, whisky, or brandy as supposed cardiac tonics. If we examine the results of the most reliable investigations concerning the action of the remedies mentioned as used in the cases to which I have just alluded, we quickly learn that the patients were actually using, coincidently, remedies of decided antagonistic influence on the structures and functions of the human body. For instance, both carefully executed experiments on animals, and abundant clinical observation have shown that antipyrin and the group of antipyretics to which it belongs directly diminish the formation of oxyhemoglobin in the pulmonary capillaries and the conveyance of oxygen to the systemic capillaries, and thereby diminish metabolism, heat production and nerve force. Hence, there are many cases on record, in which their administration was followed by cyanosis and a dangerous degree of depression of the cardiac, vaso-motor and respiratory nerve functions: Still more numerous experiments on animals and almost unlimited clinical observation has shown that alcohol produces a similar effect on the hemoglobin and albuminous constituents of the blood, thereby lessening the tissue metabolism, but more directly diminishing at the same time the sensibility of the whole nervous system in a manner closely analagous to that of chloroform and ether. Therefore, instead of acting as either a stimulant or tonic, it constitutes a true anæsthetic, and has been often used as such, mixed with chloroform and ether. When introduced into the system in any manner, it not only diminishes the sensibility of the cerebral hemispheres and thereby suspends consciousness, but it also lessens the sensibility of the vaso-motor, respiratory and cardiac nerve ganglia, and in direct proportion to the amount used.

On the other hand, strychnine is conceded by all to be capable of directly increasing the sensibility and action of the cardiac, vaso-motor, respiratory and cerebro-spinal nerve structures; and, therefore, is in direct physiological and therapeutic antagonism with the antipyrin, alcohol and other anæsthetics. Consequently when a patient with typhoid fever is given from day to day antipyrin or phenacetin to control temperature, milk and eggs liberally mixed with alcohol for nourishment; and strychnine, mineral acids, and fresh air for tonics; the antipyrin and alcohol directly antagonize the influence of the strychnine and fresh air, both on the nervous centres and on the blood and tissue changes. If in such cases the antipyrin and alcohol, and all other agents of similar action, were entirely omitted, and judicious applications of water to the surface substituted, the treatment would be harmonious and far more beneficial in its results, as I have seen demonstrated many times during the last half century.

In the cases of pneumonia to which I have alluded, the inconsistency of giving whisky or brandy, or any other alcoholic, freely, alternately with digitalis, strychnia, fresh air or oxygen, is still more apparent. The pneumonic engorgement of the lung has already much diminished the amount of oxyhemoglobin in the blood, and thereby checked both tissue metabolism and renal secretion, as well as dulled the nervous sensibilities, voluntary and involuntary. In such a condition, to set the doors and windows open for fresh air, or to give the patient oxygen inhalations, and at the same time liberally of alcoholics, perhaps twice in the twenty-four hours an antipyretic dose of antipyrin or phenacetin, or a hypodermic dose of morphine, would be much like plugging the larynx of a dog, and then trying to keep him alive by practising artificial respiration without removing the plug.

I am well aware that those who give alcohol in pneumonia, do it in obedience to the teaching that the chief danger in the disease is cardiac weakness and that alcohol is an efficient cardiac tonic. But why does the heart become weak or inefficient in pneumonia? Certainly not from fatty degeneration or any other structural change in the cardiac muscle; but its weakness is either from the diminished oxygenation and decarbonization of the blood through the obstructed parenchyma of the lung, or from the toxic effect of ptomaines or leucomaines, bacteriological or renal, or from all these combined. If it were possible, with the patient in such condition, to simply increase the action of the heart, it would only pump more blood into the already obstructed pulmonary capillaries and still further diminish the natural entrance of oxygen through the air cells of the lungs, and thereby increase the danger of inducing both respiratory cardiac paralysis. The rational indications for treatment, then, are, to lessen the pressure of blood and inflammatory products upon the pulmonary alveoli, and thereby allow the entrance of more oxygen and the exit of more carbon dioxide, and as far as possible to neutralize or eliminate the toxic ptomaines whether derived from the pneumococcus or from retained elements of urine or bile. Just in proportion as we accomplish these, we restore the natural sensibility and action of the nervous structures, increase the renal and hepatic secretions, and promote natural metabolism throughout the system.

But do not both common observation, whether at the bed-side or in the social circle, and the most accurate experimental work show, that alcohol is

a true anæsthetic, diminishing nerve sensibility, muscular force, and the efficiency of the blood in carrying oxygen from the pulmonary to the systemic capillaries in direct proportion to the quantity introduced into the system? If any one has doubts concerning the affirmation of this question, let him read carefully the experiments of Sidney Ringer and Prof. Martin on the action of alcohol on the isolated heart, and those of H C. Wood, as given in his address on Anæsthesia before the International and Medical Congress in Berlin. If we add to the results obtained by these three, those obtained by R. Dubois in 1883, we have the most complete demonstration, not only that ether, chloroform and alcohol are true anæsthetics, each mutually intensifying the action of the others, but that each directly diminishes that sensibility and action of the vaso-motor, respiratory and cardiac nerve ganglia or centres, in direct proportion to the amount introduced into the blood, until either respiratory or cardiac paralysis ensues. And also that there is no stage in their action when the efficiency of the heart is increased. Then, why longer be so inconsistent in the use of language as to call either of them a stimulant or tonic? And why continue to give one of them liberally with one hand, while with the other you give to the same patient its most direct physiological antagonists, digitalis, strychnine, or oxygen? Or why cap the climax of inconsistency by giving a patient already dangerously depressed from anæsthetics, hypodermic injections of ether or alcohol as supposed restoratives, as has been done many times both in this country and in Europe? Indeed, it is only a few weeks since that a case was reported in the *British Medical Journal*, of a patient whose respiration and circulation had been suddenly suspended during the inhalation of the anæsthetic composed of ether, chloroform and alcohol combined, and, aside from the practice of artificial respiration, the most prominent remedy mentioned was hypodermic injections of ether. Of course, the patient did not recover. Many years since a man was brought into the hospital partially intoxicated by alcoholic drinks, with a dislocation of the head of the humerus. As he was somewhat boisterous the surgeon thought to quiet him and facilitate the reduction of the displaced bone by a cautious inhalation of chloroform. But he had inhaled only a very small quantity before both respiratory and cardiac action suddenly ceased, and all efforts to restore them failed. The amount of alcohol already in his blood and nerve tissues rendered the addition of only a very small quantity of chloroform, acting in the same direction, sufficient to overwhelm their functions. Another case came under my observation, illustrating the danger of giving in quick succession different remedies capable of modifying the functions of the nervous centres in the same direction. The patient was wild and restless from delirium tremens. To quiet the delirium and induce sleep, the attending physician gave him chloral hydrate and potassium bromide every hour until three doses had been taken, forced a moderate amount of inhalation of chloroform, and finally gave half a grain of morphine, which was soon followed by sleep from which he never awoke. The amount given of any one of the four remedies used was not sufficient to endanger the life of the patient, but the co-operation of all certainly and speedily proved fatal.

Such cases show that it is quite as necessary that the physician should know accurately what remedies coincide and mutually intensify their action, as it is those that directly antagonize each other. And this suggests another item of extreme practical importance. It is to avoid giving a remedy to relieve some troublesome symptom without just appreciation of its liability to increase some of the most important pathological conditions involved in the case. For instance, in many cases of capillary bronchitis and of acute pneumonia, the patient becomes very restless from the oppressed breathing and harassing cough, and at the same time his urine is scant and his blood surcharged with renal and bacteriological toxic elements with excess of carbon dioxide and deficiency of oxygen. But his physician, overlooking these, thinks it necessary to give his patient rest, and for that purpose gives him a fair hypodermic dose of morphine, and perhaps an antipyretic dose of phenacetin to control the temperature. In a short time the patient becomes quiet, sleeps some, and expresses himself as much better, but is still drowsy, with a soft, frequent pulse, frequent and shallow respiration, and moist râles over nearly the whole chest. In from twelve to twenty-four hours, the somnolence, instead of disappearing, is increasing, the pulse is weaker, the respirations more frequent and less deep, the cutaneous surface is moist and dingy or of a leaden hue, and the physical signs of pulmonary œdema are hourly increasing. Now, if not before, the alcohol in the form of whisky or brandy, is given freely for the alleged purpose of sustaining the failing heart But, nevertheless, in another twenty-four or thirty-six hours the patient is dead. While the morphine quieted the cough and restlessness, giving the patient an appearance of relief, in the same ratio it diminished the efforts to keep the bronchioles and alveoli free, consequently less oxygen reached the hemoglobin of the blood and carbon-dioxide accumulated still more rapidly, until vaso-motor paralysis and pulmonary œdema completed the fatal process. During the unusual prevalence of pneumonia and other acute pulmonary affections that have accompanied the influenza epidemics of the last three years, many cases have occurred to which the foregoing description would apply with almost literal accuracy.

Another of the most common therapeutic inconsistencies that mars the pages of our medical literature and leads to most important errors in practice, is the claim that the same medicine or therapeutic agent, may produce directly opposite effects on the living body by simply varying the dose. Examination will show that this claim is limited chiefly to the two important groups of medicinal agents properly called narcotics and anæsthetics. These are universally recognized as exerting their principal influence on the functions of some part or all of the nerve structures of the body, while some of them exert an equally direct influence on the constituents of the blood and through it upon the metabolism of the tissues generally. Concerning nearly all of the members of these two classes, and especially regarding the two representative articles, opium and alcohol, we are constantly assured that in small doses they are stimulating or tonic; in larger doses, anodyne or inebriating; in still larger doses, narcotizing or anæsthetic; and in still larger doses, paralyzing or destructive to life. Consequently the very general popular belief, and equally popular practice, is, that their use in small doses is cordial, restorative or tonic, and, therefore, beneficial, and injurious only when taken in larger doses. Unfortunately, however, no one has yet been able to define the limit or dividing line where the small or tonic dose ends and the larger or depressing dose begins. All admit that, even in small doses, these remedies diminish the amount of oxygen conveyed from the pulmonary to the systemic capillaries, and thereby diminish the molecular or metabolic tissue changes and the excretion of the products of natural tissue metamorphosis. Indeed, it is on this power to diminish the internal distribution of oxygen and its action on the tissues that one of their chief and most important uses is made to depend, both in health and disease. But while looking in this direction, and, perhaps, admiring the working of this fancifully so-called "savings bank for the tissues," it seems to be forgotten that all nerve sensibility and force depends upon the presence of blood containing the natural amount of oxygen; and that just in proportion as we diminish the proportion of oxygen in the blood distributed to the nerve structure, we diminish both nerve sensibility and muscular action. So true is this, that the simple exclusion of oxygen produces a more speedy suspension of all sensibility or profound anæsthesia than can be produced by the most active anæsthetics known.

Is it not, then, physiologically impossible that any agent should so far diminish the distribution of oxygen in the arterial blood as to diminish general tissue metabolism and not at the same time diminish the sensibility and action of the nerve structures, both voluntary and involuntary? And, if so, how can it be at the same time a cardiac tonic and general restorative?

A careful and thorough review of all the facts, social, clinical and experimental, bearing on this subject, will show that the very general belief in the stimulating or tonic properties of small and repeated doses of alcohol and opium is erroneous, being founded on a wrong interpretation of the primary symptoms produced.

Of course, no such review of the facts can be given within the proper limits of this paper, but I may trespass upon your patience long enough to suggest the more important conclusions to which it would lead. For instance, the temporary quickening of the pulse or heart beat, the sense of warmth and lightness or exhilaration, that pervades the system, and the greater volubility of speech and less restraint in action, which constitute the only foundation for the popular idea of stimulation, on closer physiological analysis will be found to be evidences of coincident diminution of nerve sensibility (anæsthesia), and retarded tissue metabolism. The nervous apparatus controlling the circulation of the blood embraces both cardiac accelerators and inhibitors, and every well-informed psychologist knows that the mental part of the brain furnishes both accelerators and inhibitors of mental action. Indeed, it is the possession of the latter that gives to the human species one of its most distinctive characteristics, namely, the power of self-control and the sense of propriety. Every true narcotic and anæsthetic makes its first recognizable impression simultaneously on the cerebral hemispheres and the vaso-motor and cardiac nerve structures, lessening their sensibility, partly by direct contact with the nerve cells, and partly from interference with the internal respiration. Such lessening sensibility in the cerebral convolutions, when slight, simply diminishes the mental consciousness of outward impressions, and lessens the balance between mental acceleration and inhibition. Hence they exhibit less consciousness of cold, or heat, or pain, and more mental exhilaration, with less reserve or self-restraint.

Precisely the same kind of influence is exerted on the nerves regulating the circulation, causing a very transient semblance of increased activity, but which is really lessened efficiency of circulation and molecular change. Now, if you duplicate the dose of the same agent, the patient's consciousness of impressions is still less, and while he is under the same impression that he could do a great deal, his mental exhilaration and lack of self-restraint has given place to mental incoherence and in-coördination of muscular action. Again duplicate the dose, and your patient soon lies profoundly unconscious, with every voluntary muscle paralyzed, with the cardiac and respiratory functions on the verge of final suspension.

To my mind, it is a clear demonstration that the action of the therapeutic agent was in exactly the same direction from the first and smallest dose

to the largest one. And that direction was one of depression, dimished efficiency and paralysis, from the beginning to the end.

This is fully corroborated not only by the experiments of Dubois, Sidney Ringer, Martin and Wood, to which I have before referred, and many others, but also by a great variety of facts to be gathered from the mortuary, vital and social statistics of every civilized people. Did time permit, I might point out many more important therapeutic inconsistencies that are to be found in the daily routine of medical practice, but those to which I have referred are sufficient for my present purpose. For the leading object I had in view in presenting this paper, was to urge upon your attention the importance of a more thorough study of the nature and true physiological action of the articles of our superabundant materia medica, in connection with an equally thorough study of the actual pathological processes that constitute disease.

I would in no wise diminish the activity and zeal that has been, and still is, displayed in studying the causes of disease, whether bacteriological, chemical or meteorological. But I would insist on an an equal activity and perseverance in such investigations as will develop more accurate knowledge concerning the action of therapeutic agents in the living body, both in health and in disease. Every living structure has properties, or susceptibilities and affinities, that place it in definite relations to all other substances that may be brought in contact with it, whether as food, medicines or poisons.

And for gaining more exact knowledge of such relations, I would have every medical college laboratory, public hospital and dispensary, furnished with the necessary apparatus and means for such investigations, and with skilled workmen to use them.—N. S. Davis, Chicago, in *Jour. of Am. Med. Assoc.*

TUBE-CASTS AND THEIR DIAGNOSTIC VALUE.

The study of renal tube-casts is not new. Since Henle, in 1842, first comprehended and announced their importance, their relation to renal diagnosis and pathology has been generally admitted.

The exhaustive essay of Bartels, in Ziemssen's *Cyclopedia*, is an excellent record of our knowledge of casts up to that time; but I think something more may now be added.

For some years past I have had occasion to study tube-casts frequently and consecutively for purposes of diagnosis, and, while doing so, have, insensibly perhaps, arrived at certain results and reached certain conclusions, which it is my purpose to set forth in this paper. I do not claim any new discoveries, but hope my paper will add something of system and definiteness to the study of casts, and something of certainty to the diagnostic conclusions to be drawn therefrom.

Concerning the origin of tube-casts, I think they are clearly of two distinct kinds, each having a different origin, and each indicative of a different pathologic process. First, we have the mucous, or more properly mucin casts—and I do not think that casts of this variety have received the consideration to which their importance entitles them. Mucin casts I would divide into two groups: (*a*) Simple mucin casts, without crystalline or cellular elements; (*b*) Casts that include saline or cellular elements acquired during their formation in the kidney. This division has an important bearing on diagnosis, as I shall endeavor to show presently.

Secondly, we have the true fibrinous casts, or those that have long been recognized and variously classified by different writers; and these may be divided into four groups: (*a*) The hyaline or "structureless" casts, which contain no formative elements whatever. (*b*) Blood bearing casts; (*c*) Cell-bearing casts; (*d*) Fatty casts.

This classification may be reduced to tabular form, for purposes of systematic study, as follows:

CLASSIFICATION OF TUBE CASTS.

Class I. Mucin Casts.

(*a*) Simple mucin casts, entirely destitute of formative elements.
(*b*) Mixed mucin casts, or those that include crystalline or cellular elements, acquired during their formation in the tube.

Class II. Fibrinous Casts.

(*a*) Hyaline or structureless casts.
(*b*) Blood-bearing casts.
(*c*) Cell-bearing casts.
(*d*) Fatty casts.

Of course, each group may be divided into subgroups, but such wire-drawn distinctions serve no good practical purpose, while they are likely to confuse and perplex the student.

Turning now to the first class, the *mucin cast*, let us consider its origin and pathologic import. It is certainly not the product of an exudate, and is therefore not directly derived from the blood-vessels. This fact separates it at once and forever, as regards origin and pathology, from the fibrinous cast, a point to which I shall allude again presently.

It is undoubtedly true that the mucin cast is formed within the renal tubules, and from material furnished by the tubal epithelium, most likely by the epithelium of the convoluted tubes. Under certain circumstances, the epithelial cells seem to

undergo a change equivalent to the "mucoid degeneration" of Ziegler, the protoplasm of the cell being transformed into a mucoid substance, which is afterwards cast into the lumen of the tubule, there to aggregate itself with a similar product of neighboring cells, thus forming the simple "mucin cast," or the long, wavy string of mucin so often seen in urine. The mucin cast is the product of a catarrhal nephritis, a pathologic state to be sharply differentiated from exudative nephritis, with relation to origin, treatment and results.

I have contended for more than ten years that "catarrhal nephritis" ought to have a distinct recognition in our systematic nosology, simply because it is a distinct disease, frequently existing for years and having its own characteristic symptoms and course. The simple mucin cast is the characteristic morphologic product of this disease and establishes its differential diagnosis. Frequently, it is the only reliable indication of the existence thereof, since catarrhal nephritis is not generally accompanied by subjective symptoms of any marked significance.

Together with the mucin cast are frequently found tubal epithelium, leukocytes, and urinary salts, but these have no necessary relation to the pathologic condition indicated by the mucin cast; it alone establishes the diagnosis of catarrhal nephritis.

The "mixed" mucin cast is the "simple" mucin cast plus wherever crystalline or cellular elements may chance to be present. Clinical experience shows that the elements most likely to be present are leukocytes, or crystals of lithic acid or calcium oxalate. The presence of the first indicates that there exists a catarrhal condition of sufficient intensity to induce rapid multiplication of the nuclei of the epithelium, which by reason of the "mucoid" degeneration of the protoplasm of these cells are set "free" and are hence easily inclosed in the mucin cast during its formation.

It may be said that these leukocytes escape from the blood by diapedesis, but if that were true we should have hyaline (fibrinous) casts, instead of mucin casts, since we cannot conceive of a hyperemia sufficient to produce diapedesis without at the same time inviting exudation.

Of course, if hyaline casts *are* present, exudation is proved, and the diagnosis of exudative inflammation is thereby established. It is not at all unlikely that hyaline and mucin casts may be present togther, which would show that the case was in a transition state from catarrhal to exudative nephritis, or *vice versa*, as I have seen in many instances; and it is in just such cases as these that familiarity with the appearance of tube-casts and their diagnostic pointings, is so necessary, since it is impossible to establish a refined diagnosis from any other standpoint.

When the mucin cast includes crystals of lithic acid, oxalates, or phosphates, it is clearly correct to assume that these crystals were deposited in the renal tubules and that they point to a diathetic condition which determined their formation.

From a diagnostic point of view, it is important to note that the crystals are *within* the cast and not adherent to its *surface*; because it clearly warrants the conclusion that they were formed in the renal tubule, and not in the pelvis or bladder.

This being the case, we can readily account for the renal irritation that has lead to the renal catarrh and consequent renal inadequacy, so common when these diathetic factors are present. The diagnostic value and the importance of recognizing the crystals and of determining their nature and location is thus clearly indicated.

In the year 1874 and again in 1879 and 1880, the late Dr. Mahomed drew attenten to "high arterial tension" as a symptom prophetic of chronic interstitial nephritis, and described what he designated as the "pre-albuminuric stage" of chronic nephritis. His writings attracted wide and well-merited attention, but his untimely death occurred before he had completed his researches and experiments. It was his belief that high tension, or irritable heart, with contracted and resistant blood-vessels, preceded albuminuria, sometimes for months or even years. It was his further belief that the approach of renal cirrhosis might be predicted by carefully estimating the degree and constancy of cardio-vascular tension, by means of consecutive sphygmographic tracings.

A broader study of this subject has developed the fact that this peculiar condition is not certainly present, except in cases of well-marked lithemia, and that even then, as Dr. Granger Stewart has observed, some degree of cirrhosis usually precedes the symptom.

Increased or abnormal vascular tension, then, can hardly be regarded as a prophetic or prodromic symptom of renal cirrhosis, although its value as regards differential diagnosis cannot be denied.

I believe, however, that the presence of the mucin cast is of far greater diagnostic value than is high arterial tension under any circumstances.

In the first place, I am satisfied that the great, in fact, the overwhelming, majority of cases of interstitial nephritis are preceded by a long period of faulty digestion and mal-assimilation. This is certainly the case in the vicinity of Chicago, where my observations are chiefly made. This leads to overworked and irritated kidneys, as Dr. George Johnson first pointed out; but more than that, it leads to the devolopment of renal catarrh, as Dr. Johnson did *not* point out.

Vitiated or abnormal urine produces a catarrhal irritation of the kidney, just as vitiated or abnormal ingesta produce a catarrhal irritation of the stomach. The next event is the appearance of the mucin cast long before any recognizable renal lesion occurs, and long before arterio-capillary tension is present in such degree as to be detected, except by the most expert and experienced sphygmographist. In fact, arterio-capillary tension, as a practical every-day symptom for the guidance of the ordinary practitioner, does not yet possess the value that Mahomed, as well as Gull and Sutton, predicted for it. Its recognition pre-supposes the possession of instruments and technical knowledge not generally possessed by those most likely to encounter the cases to which they are applicable. Moreover, as I have already said, the symptom in question does not usually precede the lesion of which it is an indication. Again, vascular tension does nothing more than suggest a possible diathetic antecedent; whereas it is all-important, if such a complication be present, that it be promptly recognized and appropiately treated.

I claim for the mucin cast a position of preëminent importance in the early diagnosis of interstitial nephritis; more than this, I claim that the appearance of the mucin cast is a prophecy of that change which is only too sure to follow chronic catarrhal nephritis.

Moreover, the cause or "diathesis" that preceded and led to the catarrhal kidney may generally be detected by the microscopic study of the urinary sediment that falls with the casts, and as this "diathesis" includes or rather *is* the essential pathologic factor in a given case, its early recognition is most important. All this can be done, has been done, is daily being done, by him who is most concerned in all our researches and experiments, namely, the general practitioner. What seems to me a consideration of no small importance is the fact that the recognition of the mucin cast and the crystals or granules of lithic acid are not matters of opinion or guess-work, or questions of comparative judgments, but simply questions of fact and of fact only; these substances are or are not present, and the conclusion is obvious. The degree of arterio-vascular tension in a given case is, however, a matter of comparative judgment at best, and in every case is a very variable factor, present to-day and absent to-morrow.

It is proper, although perhaps needless, to add that the foregoing statements are based on a long and cumulative experience, upon long and careful study of many cases, some of which are still under observation, and are in no proper sense theoretic or conjectural.

I will now ask your attention briefly to the second class, namely, the true *fibrinous casts*. The presence of the fibrinous cast in urine is abundant proof that sufficient hyperemia exists, or has existed, in the kindey to produce exudation of the fibrin factors, and most probably diapedesis. It is proof, therefore, of the presence of "exudative" inflammation, instead of "catarrhal" inflammation, which I have just considered. I regard it as very essential that this distinction be kept in mind, since it has much to do with the question of treatment, and is all-important in its relation to prognosis. In both forms of disease albumin may be present—present at one time and absent at another. In the early stage of exudative (interstitial) nephritis, the quantity may be so small as to require very careful testing to prove its presence. In catarrhal nephritis the amount is always very slight, many times amounting to no more than a trace. As a diagnostic symptom, therefore, albuminuria has very little value, and no uniform value. Tube casts, however, have a positive as well as uniform diagnostic value, provided their interpetation is understood. One of the most important points settled by them is the question whether, in a given case, we are dealing with catarrhal or exudative inflammation.

The *hyaline cast*—the first variety of the second class—is the simplest and most innocent form produced by exudative nephritis. It is so small and so translucent that it frequently escapes detection, unless the examination happens to be made by an expert microscopist. Its diagnostic value depends mainly upon its frequency and upon its form or symmetry. If only an occasional hyaline cast is found it goes to show that exudation is very slight; that it is in its incipiency, or has well-nigh ceased—a question that can easily be decided by reference to other symptoms that do not come within the scope of this paper. If many are present, exudation is still going on actively. In my own examinations I lay great stress upon the form of the cast. If it is smooth and symmetrical, or free from "twists" or distortions, it seems to one to indicate that it was formed in a tube, not yet disturbed by the encroachments of pathologic connective tissue; but if the cast is not smooth and regular on its surface, and if it shows angularities, as though it had been violently bent or twisted, I am equally confident that the cirrhotic process has already made considerable progress. I regard this a very important diagnostic indication, and one that has helped me very greatly in seeking grounds upon which to found a reasonable prognosis. It will save repetition if I say now and here, that the same observations with reference to symmetry and form apply in equal degree to the varities of casts that are yet to be mentioned.

Blood-bearing casts indicate a hyperemia sufficient to cause hæmorrhage into the renal tubules, although it may be very slight indeed. Hence,

blood casts are commonly regarded as proofs of acute nephritis, and of that only. In every such case, however, it should be borne in mind that while the blood cast may be the immediate result of an acute lesion, a long-standing chronic lesion may have preceded it, and careful search for other forms of casts should be made. In other words, a prognosis founded upon blood casts alone is quite likely to disappoint the expectations of physician and patient. In every case of apparent acute nephritis careful search should be made for casts indicative of pre-existing chronic disease, and it is not wise to prognosticate favorably until several consecutive examinations have failed to disclose the presence of the casts of chronic nephritis. I have rarely encountered cases of so-called "idiopathic" acute nephritis that were not preceded by undoubted chronic nephritis.

Cell-bearing casts, the "epithelial casts" of authors, are so common, and are generally so well understood that little need be said about them, except to emphasize some two or three points. Care should be taken to determine whether the cells adhere to the surface of the cast or are incorporated therein. In the former case they may not be the result of pathologic exuviation, but they may represent only cells wasted by wear and tear, whose escape has been anticipated slightly by the friction of the cast as it passes down the tubule. In the latter case they must have fallen off from purely pathologic causes. The shape or form of cell-casts is as significant as that of hyaline casts. Casts from a cirrhotic kidney are likely to be twisted and distorted; casts from a case of tubal nephritis are likely to be straight, symmetrical, and rather large. In either case the cells may be cloudy, granular, or filled with glistening droplets of fat, thus indicating with great precision the stage or condition of the case under examination, as the more advanced the process of fatty degeneration of the cells, the more advanced the destruction of the kidney in which they were produced.

Fatty casts are evidences of the completion of the destructive process of which the hyaline cast marks the beginning. They are more or less numerous as the case is more or less advanced in its ultimate pathologic history. They are more or less eroded and irregular as the tubule is more or less denuded of its epithelial lining, and otherwise roughened in its lumen. They are more or less twisted and distorted as the tubule is more or less pulled out of shape and symmetery by the encroachments and contractions of the pathologic connective tissue. Thus they indicate the stage as well as the form or type of the disease of which they are the product. With fatty casts may be mingled hyaline and epithelial casts; in fact, the three forms are frequently found together. The stage of the disease in a given case would be pretty accurately indicated by the predominating type of casts; but it would be evident that some minor portion of one or both kidneys was either more or less advanced in the pathologic change than the chief portion of these organs.

I have not regarded the *waxy* or *amyloid* cast as entitled to a separate grouping, because it is only an accidental variety of fibrinous cast, presenting no inherent peculiarities of structure, and therefore indicating no pathologic changes in the kidney that are associated with its presence. Waxy casts are almost invariably hyaline or structurless; if they happen to contain the peculiar waxy or amyloid material implied by their name the iodine test will promptly demonstrate the fact, and thus establish the diagnosis of waxy kidney; but clinical experience shows that the amyloid disease can seldom be differentiated in this manner. In conclusion, permit to me add that I have long been persuaded that the course of a given case of acute or chronic nephritis, the type of the disease, the sequence and nature of the pathologic events taking place in the kidney, and the grounds for a reasonable positive prognosis, may be evolved from an intelligent and careful consecutive study of the tube-casts alone. Other factors, of course, enter into the diagnosis, and their value and importance I do not question, but I believe, with Formad, of Philadelphia, that the tube-cast conveys more actual and accurate information to the practised microscopist than any or all other symptoms or signs.—I. N Danforth, A.M., M.D., in *Med. News.*

METHODS OF IRRIGATION AND ANTISEPSIS OF THE COLON AND RECTUM IN DYSENTERY.

In the earlier methods of rectal and colon treatment, water was thrown into the bowel, retained for a time and then expelled. Some of the most excellent results are reported from this plan and within recent date. But this cannot but be an imperfect way of cleansing the bowel, although it answers well enough for bringing an antiseptic fluid in contact with the wall of the bowel and with germ-breeding mucus. The objection to it is, the necessity of distending the inflamed coats of the bowel up to a point where injury may be done, if any considerable quantity of water is injected; its advantage is that by this distention the antiseptic fluid washes the inner wall more thoroughly than without it. The method is better fitted, therefore, for subacute cases or those tending to become chronic, than for the acute inflammation with necrosis of the mucous coat. Properly speaking, this method is not irrigation at all, and the only procedure deserving of this title is that in

which there is a *free* and *immediate escape* of the water thrown in; and even without argument, it is apparent that in this way only can the bowel be thoroughly emptied and made aseptic.

The mechanical difficulties are very much greater in the efforts to irrigate the colon than in the case of the rectum. To wash the *rectum*, a double, in-and-out, hard-rubber tube, passed into the rectum five to eight inches, through which flows a current of water from a fountain syringe, answers the purpose well. The only objection is the pain which attends the introduction of a hard, inflexible instrument through the irritable anus. Two soft-rubber tubes passed side by side, the larger one for the escape current, are more comfortable for the patient and better in every way; No. 17 English (29 French) is a good size for the smaller tube, the escape tube can be two sizes larger. A large-sized soft catheter will do very well for the entering current. The double-current soft-rubber tubes are not so successful; their soft and thin walls are pressed upon by the sphincter and escape of fluid is obstructed. Then again there is an advantage in having two separate tubes, as either can be pushed up or down as it is desired to wash different parts of the rectal wall; they are, therefore, to be preferred to any double-current tube. The disagreeable sensation of distending the anus passes away in a few moments and the patient gets so much relief from the operation that he ceases to object; preliminary cocaine application may be used if the suffering is great.

All that is needed, then, for this operation are a fountain or Davidson syringe, attached to a small rubber tube or large silk catheter, an escape tube of large size of soft-rubber, made long enough by the attachment of a long piece of tubing, so that the fluid escapes into a vessel on the floor. The hand holds and guides the tubes and changes their position from time to time.

The *colon* cannot be distended with water or irrigated with the same facility. That water can be made to pass through the sigmoid flexure there can be no doubt; but the passage of a tube through the flexure into the colon is a difficult task. If this is tried on the cadaver with the abdominal wall removed, one can see how difficult it is; the end of the instrument must describe a complete sharp curve on itself, as if it were about to tie itself into a knot. Even with the hand pressing on the passing instrument and guiding it, it is not easy to accomplish. It is clear from the experiments which I have made, that a partially flexible tube, like the old-fashioned stomach tube, should never be used, and that a small tube does not pass as readily as one which more nearly fills the bowel. Distending the rectum with water as the tube advances, does not favor the passage as much as leaving the bowel empty. The tube finds its way better along the mucus-covered mucous coat. I speak now only of experiments on the cadaver, when the eye is watching the process; the contrary is the general opinion of physicians from efforts on the living patient. But the turning of the instrument on itself in a cavity filled with water, when the end strikes against the wall is very likely to happen and can easily be mistaken for the onward progress of the instrument. In the rectum the finger introduced discovers the error of direction, but higher up it is not possible to do so.

The conclusion of many trials must convince anyone that the attempt to make the instrument enter the descending colon as often fails as succeeds. The difficulties show that all colon irrigation must be done by one tube. I have tried the double-current stomach irrigator and have had constant failure—the closure of the lumen from twists of the tube or from outside pressure prevents the exit of the injected fluid; so that the only way in which this can be accomplished is to force half a pint or one pint of fluid into the colon and then allow it to escape at once through the same tube; in this way the colon and sigmoid can be thoroughly washed out.

What are the indications for the choice of colon or rectal irrigation? In all cases of so-called catarrhal dysentery where the stools are small, contain blood and mucus and in all cases, mild or severe, where the general or local symptoms are relieved by washing the rectum, no attempt need be made to do more than this. For even when the disease extends into the sigmoid flexure and colon, the curative influence is transmitted along the bowel wall upward, as gargling the throat benefits laryngeal inflammation. If the patient continues to have fever, delirium, great restlessness, or other symptoms of general infection, or if stools are large, thin, with a gangrenous odor, containing blood, mucus, and tissue-like shreds, then the attempt should be made to make the tube pass in the sigmoid for higher injection. If the patient is on his left side, with hips raised, a gentle current may pass from a raised fountain syringe into the colon, even if the point of the tube has not passed beyond the first curve of the "flexure." I need not add that there is a danger of perforating an ulcer, even without much force being used, so that the operation should be done with the greatest gentleness. In the great majority of cases of dysentery as we see it, rectal irrigation may, I hope, by continuing experience be proved to be all that we need to gain the desired end.

The *quantity* of water used depends upon the circumstances of each case; as a rule it should in and out of the bowel until it runs clear, and both in the case of the colon and rectum the amount thrown in should be equalled or almost equalled by the amount which escapes; if the egress is not free the operation must be stopped

until the trouble is remedied. There need be no limit to the quantity of water.

The *frequency* of irrigation is to be regulated by the number of stools, state of decomposition in the bowel, and other conditions; a good rule *is to try to prevent the patient from having any stools at all;* let his bowel be emptied only *at your command* through the inserted tube; at first once in three hours, later three times daily, as the outflowing fluid contains less blood and has less odor. *Keep the rectum empty and clean*, is the one rule.

At first wash the bowel once in three hours; later three times daily, and so on with diminishing frequency as there are less odor, less blood, and finally less mucus. When mucus is no longer seen in the form of thin flakes the patient may be said to be well; but for a few days one daily irrigation serves a good purpose. Relapses should at once be met by a return to local treatment.

As an *irrigating fluid* water may be used plain, hot or cold, or may contain in solution any of the numerous antiseptics. Extreme cold or very hot water may be injected, but both must have a more or less irritating effect, and their action, in the nature of things, is intermittent. If a continued current of cold or hot water could be kept on the inflamed surface, the case would be different. The surgeon would not apply great heat or cold for five minutes to an inflamed ulcer of the skin and then leave the ulcer alone for three or more hours. It may be practicable to keep water flowing in and out of the rectum for many hours, but few patients could bear such continued distention of the sphincter.

Almost every *antiseptic* has received warm recommendation. Fifty-three cases of acute dysentery were treated at the Military Hospital at Oran with a 1:5000 bichloride solution. After the first day the stools were fewer in number, and in three or four days the mucus disappeared; tenesmus and pain were soon lessened.

Lemoine treated fifty-four cases of dysentery with solutions of corrosive sublimate, 1:5000. Six ounces were injected into the rectum twice daily; later a solution of the strength of 1:3000 was injected twice daily. The fluid was not retained longer than ten minutes. Improvement followed immediately, and acute cases were cured in from one to three days. No systemic poisoning followed in any case.

Notwithstanding all this favorable testimony, the dangers of ulceration in the colon being set up by the remedy, and the grave doubts lately raised as to the value of corrosive sublimate as a germicide in just such conditions as exist in dysentery, deter one from using it at all. Under no circumstances should it be employed without an immediate outlet for the solution.

Tannin destroys bacterial life and renders ptomaines innocuous; it is recommended by Cantani for typhoid fever, and it may have as good an effect in dysentery for the same reason.

Salicylic acid, thymol, aseptol, sulpho-carbolate of zinc, alum, hydrochloric acid, carbolic acid, boric acid, the sulphites and hyposulphites have all been used and advised, but no sufficient number of cases have been treated by any one of these as to lead to its preference over all other remedies of the same class.

Boric acid and carbolic acid are the only antiseptics I have used frequently; the results have led me to think that the former, or both together, give all we want, and as I believe that a great part of the benefit comes from the cleansing and complete emptying of the rectum, the least irritating and least dangerous germicide ought to be preferred.—W. W. Johnston, M.D., in *Am. Jour. Med. Sci.*

PRURITUS.

Pruritus may depend on any of the following causes:

1. *Local irritation* from rough clothing, parasites, unhealthy discharges (saccharine urine, leucorrhœa).

2. Inflammations of the skin; eczema, lichen, early psoriasis, pemphigus; slightly in roseola; sometimes severe after the local use of croton oil or tartar emetic. Desquamating syphilis may itch, but cutaneous affections of the lower layers of the cutis, as a rule, do not itch; and these comprehend most specific eruptions and leprosy.

3. *Reflex irritation* from the uterus or stomach in urticaria, pregnancy, intestinal worms, or from the kidneys.

4. The presence of certain *substances in the blood*, such as biliary acids and copaiba.

5. *Undiscovered causes*, as in true prurigo and strophulus. Kaposi speaks of pruritus cutaneus universalis as a true idiopathic neurosis.

Duhring has described *pruritus hiemalis* due to the effect of cold, and most apt to be felt by pruriginous persons who put on loosely knit underclothing.

Many persons are attacked with pruritus on putting woollens next to the skin, especially Scotch wool.

The uric acid diathesis, gout, and plethora are sometimes causes of pruritus. Certain articles of diet, such as shell-fish, lobsters, beer, coffee, mushrooms, and tomatoes, are thought to cause pruritus in some persons.

Albuminuria may be accompanied by itching due to irritation of the peripheral nerves or of the sensory centres by toxic substances in the blood. Depression of the spirits and various emotional disturbances may give rise to pruritus. Opium causes pruritus, and Hardaway says that the same

symptom is due to the inordinate use of tea, and to oatmeal. A rural tradition ascribes a form of itching to the use of buckwheat. The "Prairie itch," or "Texas," or "Kansas" scratches, is in some cases a form of eczema, in others scabies.

Nasal pruritus is thought to indicate the presense of worms in the intestinal canal in children, or it may precede an asthmatic paroxysm in adults. Pruritus ani in children is due to ascarides, or to phimosis; in adults it accompanies the disorders incident to a sedentary life, hæmorrhoids, fissure, fistula, constipation, enlarged prostate, etc.

Pruritus pudendi may be due to diabetes, vesical calculus, leucorrhœa, varix of the labia; or it may be due to the irritation by the menstrual fluid, and is then only present during its flow. Pruritus of the legs, if not pruritus hiemalis, is generally due to plethora or uræmia. Limited to the feet, pruritus is caused by the accumulation of epithelium, not removed by ordinary ablution. Pruritus senilis, not due to pediculi or to diabetes, is probably caused by atrophy of the papillæ of the skin.

The internal treatment of pruritus should be guarded very largely by the condition of the patient and by the cause of the itching.

The external treatment must necessarily depend very much upon the local conditions present in each individual case, but some of the following formulæ will be found very useful:

℞—Camphoræ,
Chloralis hydrat., . . . āā ʒ j-ij.

Rub together until liquefied; then add slowly, with friction:
Ung. aquæ rosæ, ... ʒ j.
M.—S. Ointment. —*Bulkley.*

℞—Hydrargyri chlorid. corros., . gr. j.
Pulv. aluminis, ... gr. xx.
Amyli, ... ʒ jss.
Aquæ, ... ʒ vj.
M.—S. Apply locally. . —*Goodell.*

℞—Acidi carbolici, ... ʒ j.
Potassæ fusæ, ... ʒ ss.
Aquæ, ... ℥ x.
M.—S. Lotion. —*J. C. Wilson.*

℞—Naphthol, ... gr. ccxxv.
Saponis viridis, ... ʒ xijss.
Cretæ preparat., ... ʒ ijss.
Adipis, ... ʒ cxxv.
M.—S. Apply to parts, and then powder with starch.

℞—Sodii biboratis, ... ʒ ss.
Morphinæ sulphatis, . . . gr. vj.
Aquæ rosæ, ... ʒ viij.
M.—S. Lotion; apply twice daily.
—*Meigs.*

℞—Ol. staphisagriæ, ... ʒ j.
Adipis, ... ʒ j.
M.—S. Apply once or twice daily.
—*Balmanno Squire.*

℞—Aquæ laureocerasi, . . . ℥ j.
Acidi nitrici dilut., . . . ʒ ss.
Acidi hydrocyanici dilut., . ʒ iv.
Glycerini, ... ʒ j.
Lactis amygdalæ, ... ʒ xij.
M.—Ft. lotio. For pruritus vulvæ.
—*Greenhalgh.*

℞—Acidi hydrocyanici dilut., . ʒ ss-j.
Infusi althææ, ... ℥ v-viij.
M.—S. Lotion.
—*Fox.*

℞—Potassii cyanidi, ... gr. xv.
Aquæ laureocerasi, . . . ℥ viij.
M.—S. Lotion.
—*Anderson.*

℞—Liquor carbonis detergentis, . ℥ ss.
Glycerini, ... ʒ j.
Aquæ, ... ad ℥ x.
M.—S. Lotion.
—*Sparks.*

℞—Acidi benzoici, ... gr. cx.
Ol. caryophylli, ... gtt. xl.
Alcohol, ... ʒ ijss.
Solve, et adde:
Cerati simp., ... ℥ viij.
Bals. Peruvianæ, ... ʒ j.
M.—Ft. unguent. Especially good for scabies.
—*Potter.*

℞—Acidi hydrocyanici dilut., . ʒ ij.
Sodii boratis, ... ʒ j.
Aquæ rosæ, ... ʒ viij.
M.—S. Lotion.
—*Fox.*

℞—Potassii cyanidi, ... gr. vj.
Pulv. cocci, ... gr. j.
Ung. aquæ rosæ, ... ʒ j.
M.—S. Ointment.
—*Anderson.*

℞—Cretæ preparat., ... ʒ j.
Coal tar, ... ʒ j-ij.
Ol. lini., ... ʒ ijss.
M.—Ft. unguent.
—*Potter.*

℞—Zinci oxidi, ... ʒ jss.
Potassæ bromidi, ... ʒ ijss.
Ext. cannabis indicæ, . . . ʒ ss.
Glycerini amyli, ... ʒ vijss.
M.—S. Wash vulva with very hot flax-seed tea, and apply above.
—*Ménière.*

℞—Acidi carbolici, ... ʒ iv.
Glycerini, ... ℥ j.
Aquæ, ... q. s. ad. Oj.
Ol. menthæ pip., ... ʒ jss.
M.—S. Use as a spray, with atomizer.
—*Hardaway.*

℞—Thymolis, ... ʒ ij.
Liq. potassæ, ... ʒ j.
Glycerini, ... ʒ iij.
Aquæ, ... ℥ vij.
M.—S. Lotion.
—*Crocker.*

—W. F. Waugh, in *Times and Register.*

OUR MISTAKES.

(*Concluded from p. 375.*)

It is curious to observe how often our cases run in pairs or groups. With the last case fresh in my mind I was called to see a gentleman in the north. On going into his room his wife said, "Do not bother him by many questions." On asking him to tell me of his complaint briefly, he, pointing to the inside of his thigh, said, "I can tell you in three words, 'It is pain there.'" I asked for vaseline, examined the rectum, and found a malignant mass in the pelvis—a sad solution of a case which had misled two excellent practitioners to suppose he suffered from disease of the pelvis of the kidney. These cases show how narrowly we sometimes miss a diagnosis, and show how important it is to take note of these slight and faint hints if we are to save ourselves from failure. We must, however, take heed lest a great success in diagnosis and treatment unduly impresses itself on our minds and we begin to seek for the same thing, and do the same thing in every case. It is easy to yield to this temptation, and we need to guard ourselves. I have again and again seen even great men plant their favorite diagnosis on the most unlikely cases. Two or three patients of a really great physician came to me a few years ago, each stating they had irritation of the ureter, until at last I was able to say, "Oh! I see you have consulted Dr. So-and-so." In each of these cases the true ailment proved to be lateral flexion of the uterus. Not that I have escaped this mental infection, as I am free to admit I may probably have treated irritated ureter for lateral flexion. Nothing short of a large view and a well-balanced mind can save us from this kind of thing.

An illustration of another kind of mistake which sometimes occurs as the result of a paucity of experience and a good deal of science may be here introduced. It also illustrates the so-called *nimia diligentiæ* in treating a case by everything but the right thing. I was called to see a favorite child of wealthy people in Yorkshire, said to be suffering from inflammation of the brain. I found a strong plethoric child, with flushed face and suffused and congested eyes. He was suffering from pain in the head, restlessness and great irritability, together with anorexia and a coated tongue. He was in a darkened room, two nurses were in attendance, and an apparatus for circulating iced water over the head was in active operation. The temperature was taken at frequent intervals, and repeated doses of aconite were being administered. The expression of the child's countenance and his evidently clear intellect did not convey the idea of meningitis to my mind, and I asked when his bowels had acted. No one quite knew, and it was clear they had not acted for a day or two. I gave my opinion to the medical attendant that it was a case of disordered secretions, and insisted on giving three grains of calomel, followed by a dose of senna. We met again in a few hours, and found the patient sitting up in bed quite cheerful and comfortable, after a free purgation, and he was soon quite well. I do not mean to cast any reflection on what is called scientific medicines but I think an old-fashioned doctor would probably have purged at the outset and saved all this bother. Let us never forget the marvels achieved by our old friend calomel.

To omit the abdomen as the most fruitful field of all sorts of mistakes, would be to omit the character of Hamlet from the play. The many different organs contained in it, ministering to functions so different as digestion, excretion, assimilation, and reproduction, give rise to such enormous varieties of physical signs and symptoms that it would be strange indeed if we did not often fail to make an accurate diagnosis and use appropriate treatment here. Added to this is the ever-varying condition of the abdominal walls, due to distension and emptiness of the hollow viscera, the engorgement of the solid organs, and the amount of abdominal fat which often comes and goes with remarkable rapidity. These difficulties, from complication of organs and their changeable condition, can hardly be said to exist in the head or chest, but they are somewhat compensated for by the ease with which the abdomen can be manipulated.

To mention a few of our chief difficulties is all that can be accomplished in a short address. First, there are those connected with abdominal aneurysm, on which a book might be written, and an amusing one, for I shall never forget, when preparing an article on this subject, the extraordinary hits and misses in diagnosis which turned up in looking through the scattered literature of the subject. Existing aneurysms had been diagnosed as renal, hepatic, ovarian, and uterine tumors, and conversely nearly every variety of abdominal tumor, and often "no tumor at all" has been

diagnosed as aneurysms. My well-known case of aneurysm of the abdominal aorta was at one time treated for lumbago, and was subsequently said to be a fæcal accumulation, by a man of great experience. The pelvic department of the abdomen is even more dangerous ground than the abdomen proper. It is here that confusion still reigns, as evidenced by the number of so-called exploratory incisions now made in that region. A good book on the diagnosis of pelvic disease is still wanted, but I doubt if the data for it have yet been obtained. The almost infinite variety of conditions brought about by pregnancy and menstruation almost defy classification, and thus general rules are almost out of the question. For instance, ovarian tumors, simple as their diagnosis generally is, often deceive the most experienced, and we must not rely on general rules even here, or the opened abdomen may possibly stagger our nerves and try our resources. Twice over I have been misled by trusting too much to a resonant note in the flank, and a dull abdominal dome, where I discovered our mistake to be due to the fact that the intestines were bound down by adhesions in the lumbar region so closely as to give resonance there in ordinary ascites. Then, again, there are mistakes attaching themselves to pregnancy, about which some experienced accoucheur might give a highly interesting discourse. I recollect a startling case where a patient was about to be admitted to an institution for the removal of an ovarian tumor; but her own doctor thought he would like to do the operation himself, and sent her to me to confirm the diagnosis. Labor pains came on while she was in my waiting-room, and she had just time to reach home in a cab before she was confined. Then, again, there are those trying cases of women who marry late in life, and, being possessed by a longing to have a child, arrive at the menopause and begin to swell visibly. Beware of such women. If you say they are not pregnant they will not believe you, because "they feel a movement which cannot be mistaken." If you for a moment favor their wishes, and incautiously admit it may be so with them, you have staked your reputation on a broken reed, and a day of reckoning lies in store for you some few months hence, "when it does not and will not come off." To be called in under such circumstances is one of the most trying and delicate tasks for a consultant. By a word or a look he may shatter his friend's reputation throughout a wide circle; and yet the truth must be told, either abruptly or—far better—by a gradual undeceiving of the patient's mind.

Far more serious difficulties surround us when we are face to face with ectopic or tubal gestation. A certain diagnosis in many of these cases is impossible without the exploratory incision, and even then the complications may prevent a satisfactory diagnosis—nay, more, I have seen a case of this kind so complicated that a post mortem examination failed to reveal the true state of the case. These are cases of the third order, in which a faulty diagnosis casts no blame on us. Let me give a history of a case illustrating the extreme difficulty or impossibility of arriving at a certain diagnosis. I do so the more readily because I believe the case is unique.

Some years ago the late Mr. John Hope and I saw a patient suffering from intolerable pain in the testes. Both testicles were enlarged, the left as large as a goose's egg, the right slightly smaller. As the enlargement and sufferings increased, especially on the left side, we decided to remove that testicle. On doing so we found a healthy testicle encased in dense concentric layers of suet-like fat about an inch thick. The relief obtained made the patient urgent to have the right testicle removed too, which was done with complete relief. Some months afterwards this man came to me again in a deplorable condition. His body was emaciated, but the abdomen had become enormously enlarged and extremely painful. The abdominal swelling was uniform and dough-like on palpation and absolutely dull on percussion, without any evidence of fluctuation. His chief symptom was a mucous diarrhœa over which remedies had but slight control. He died of exhaustion. On making a post mortem examination, we found the enlargement was entirely due to the presence of hundreds of fatty tumors scattered throughout the folds of the peritoneum. The mesentery was a mass of them. They varied from the size of a pea to that of an orange, and each was composed of concentric layers of suet-like fat similar to that found around the testicles. The smallest were concentric as distinctly as the largest. The most remarkable developments were in the appendices epiploicæ, each of which extended into the abdomen like a large bunch of grapes studded with fatty nodules. We might, if we had had a similar experience, have divined from the testicular encasements the real cause of the abdominal enlargement; but, lacking this, I think it was impossible to make a sure diagnosis. But I must draw this part of my subject to a close, or I should like to have alluded to the difficulties which surround the medical men who is called to see a patient in the initial stage of any of the acute febrile diseases, especially of infectious diseases. If he speaks of his suspicion too soon he may find he has given needless alarm; if he hesitates too long he may be blamed for not speaking soon enough. A wary outlook, an expectant state of mind, and a knowledge of human nature are all needed to save him from a false position. Lastly, the mistakes which occur in the treatment of disease may be divided into those arising from a false diagnosis and those in which the wrong remedy is used wherever diagnosis is correct I need not say that for the most

part a false diagnosis is the cause of most of our mistakes, and this has already been dealt with. With regard to the first application of the treatment when the diagnosis is correct I may say this is often owing to the want of a true appreciation of the temperament and constitution of the patient, whereby we are led to give what is good enough for the disease, but bad for the patient. Let us ever remember, therefore, that we are treating patients as well as diseases, and what may, rigidly speaking, be the right thing for the disease is often the wrong thing for the patient. Take the case of tonics, such as iron and quinine. I know of nothing which has destroyed the confidence of patients, both in medical men and medicines, more frequently than the administration of these remedies to debilitated, anæmic, and phthisical patients when they were quite unable to bear them. How often do we see a patient in the early stage of phthisis suffering from the miseries of dyspepsia added to those of his disease. And yet we find such a patient is being treated by cod-liver oil, or iron and quinine phosphates, which only add still further to his misery. Or, again, take the case of anæmia in which the fault lies in a weak and irritable gastric membrane. Nine out of ten of such patients become considerably worse when treated by ferruginous tonics. Or, again, take the case of a patient recovering from an attack of gastric catarrh: to select the exact moment when that membrane will be able to bear a tonic, and decide what tonic to give it, is one of our most difficult problems. In early phthisis, in anæmia, in the exhaustion of gastric catarrh, I rarely venture on any so-called tonic medicine, and prefer to give aids to digestion and sedative correctives until I am well assured the stomach will tolerate such remedies as iron, quinine, or cod-liver oil. I cannot help thinking these misapplications of the right remedy for the disease in unsuitable cases is the secret source of that sceptical attitude which many able men have assumed towards the beneficial action of medicines. In early life they expected too much, and blamed the medicine when really it was its application which was at fault, and so they have lost faith. I, for my part, have an undying, nay, an increasingly vital faith, in the virtue of medicines, and I hope to live to see the day when mankind at large will accord to rational scientific medication the place it undoubtedly deserves to hold in its esteem. Many hints which I could give as the result of thirty years careful study of the action of medicines crowd upon my mind, but I must not trespass further, except to say that much depends upon the method of combining our remedies. I believe in combinations; without them we cannot put limitations to the action of our drugs, and we cannot guide them to the right spot. One medicine, so to speak, conditions another, and some are complemental to each other. Take digitalis as an example. Do we wish to act upon a weak heart in an anæmic subject we combine it with iron. Do we wish it to act upon the heart where all the organs are engorged from regurgitation in a plethoric subject, we give it combined with mercury and pugatives; or, do we wish to relieve pulmonary congestion arising from the same cause, we combine it with ether and ammonia; or, do we wish it to act on a sluggish kidney, we add some suitable diuretic. We thus, as it were, condition and conduct our remedy to do its work in the right direction. To do otherwise would lead to serious mistakes, and might shake our faith in the power of this mighty drug.—W. Murray, M.D., in *Lancet*.

A Case of Spasmodic Torticollis Treated by Avulsion of the Central End of the Spinal Accessory Nerve.—A lady aged twenty-eight was brought to me in August, 1885, by the late Dr. Troutbeck, for very troublesome spasm of the left sterno-mastoid muscle. She first experienced trouble in the neck eight years before, soon after the death of a near relative; the jerking of the head had persisted ever since, gradually getting worse. The patient was a tall, thin girl, and delicate looking. There was no history of fits; she had had facial neuralgia, but not severe migraine. The spasm appeared to be entirely limited to the left sterno-mastoid muscle, and was so severe and constant as entirely to preclude the patient from mixing in society, and at night it was some time before she could get to sleep. Dr. Angel Money applied the constant current to the muscle on nine occasions, but with no benefit; indeed, the spasms appeared to be increased in severity. So on Sept. 10th, 1885, with Mr. Hudson's assistance, I exposed the spinal accessory nerve by means of an incision along the anterior border of the upper part of the sternoid-mastoid muscle, intending to stretch it and excise a considerable portion. In stretching it from the central end I felt the nerve gradually give way, and I pulled out a long, slender nerve from the jugular foramen and excised four inches and a half of it. No special symptoms were noticed from the tearing of the nerve roots. The wound healed without complication, and the patient returned home on Sept 23rd. She called on me on Sept. 8th, 1886. She was then in much better general health, her head was held erect, and was quite steady. She could turn it freely to the left and about half the distance to the right, and she was gaining power in it. The left sterno-mastoid muscle had completely atrophied, and the cervical portion of the left trapezius muscle was markedly smaller than the right. The patient was able to mix again in society, and was very pleased with the result of the operation. A year later (October

1887) Dr. Troutbeck saw her, and reported to me that she was "quite well, except for occasional fatigue felt in the neck; no jerks." The satisfactory result of this operation was, in my opinion, chiefly due to the fact that the spasm was limited to the one muscle—the sterno-mastoid. I have on two subsequent occasions intentionally removed the central end of the spinal accessory nerve in the same way for spastic torticollis. The operation is quite a simple one, the delicate roots of the nerve rupture and a long tapering filament is drawn out from the spinal canal. These two cases were treated last year and it is too early to pronounce with certainty upon the result of the operation in them.—A. Pearce Gould in *Lancet.*

ON HOT BATHS.—Dr. Benjamin Howard has been drawing attention to the method of bathing adopted by the Japanese. The general opinion is that a frequent repetition of the hot bath has a debilitating effect. The *warm* undoubtedly is, but whether a very hot bath would have such an effect if continuously used has not been put to the test in this country. It would be worth trying by people who suffer from rheumatism or who cannot take a cold bath. Dr. Howard writes: "In hygienic matters the Japanese have everywhere a habit which may have a lesson for us. In their nightly bath and morning wash the water is never cold, never warm, but always as hot as it can be borne. To foreigners this habit seems very surprising, but the most inveterate Englishman, if he stays in the country long enough, abandons his cold tub in its favor. The cold-taking, which it is suspected must follow it, is found not to occur if the water has been hot enough. This heat is maintained by a little furnace beneath the bath. In the bath the bather or bathers take a prolonged soaking, the washing proper being done on the bath-room floor; then follows a second and final soaking, drying with towel, and a lounge in bathing wrapper. This habit seems to promote softness and suppleness of the skin, and by persons inclined to rheumatism is soon found to be altogether preferable to the cold bath in every particular. The poorest of the Japanese hear of a cold bath with amazement, and would be sure the man who used it must be a barbarian. With respect to the superiority of the hot bath over the cold, I have come to find that in my own case certainly the Japanese are right."—*Popular Medical Monthly.*

THE TREATMENT OF EPILEPSY.—Dr. Guy Hinsdale has shown from his clinical observations that potassium bromate shares with the bromides the power of controlling epileptic seizures, but it is an irritant intestinal poison, lowering the pulse and depressing the heart to such a degree that in most instances it had to be abandoned. Magnesium bromide exerted an undoubted power in controlling the attacks, both as to frequency and severity; there was, however, apparently a greater liability to facial erutpion than in the case of potassium or sodium bromide, and Fowler's solution of arsenic was usually given in addition. Hydrobromic acid was fairly successful; it is not likely to cause acne nor muscular depression, and, in some cases, it is usefully added to lessened doses of alkaline bromides. Certainly, in some instances, it does aid digestion or at least has no tendency to impair that function. The use of nitro-glycerin has not been sufficiently encouraging to insure its continuance. In some cases, when the improvement was most striking at first, the attacks soon returned, and the remedy had to be abandoned. Nitrite of potassium proved too depressing and produced marked cardiac irritability. Antifebrin succeeded in keeping the attacks, in one case in which the bromides had failed, down to such a number that life was useful, but usually only temporary improvement was noted, and in a few weeks it was necessary to return to the bromides. Sulphonal was used in several cases with more or less unsatisfactory results, and appears to answer admirably as a substitute when the bromides have to be discontinued on account of bromism or other disagreeable complications. He has used sodium biborate, lithium biborate, tincture of cannabis indica, tincture of digitalis, ammoniated copper, and antipyrin, but none of these remedies maintained themselves. He has fallen back, then, upon the bromides of sodium, potassium, and lithium, employing most frequently the sodium salt, which is well borne for long periods, when arsenic is used occasionally to check cutaneous disturbances.—*International Medical Magazine—Am. Jour. Med. Sci.*

THE EXCISION OF STRUMOUS CICATRICES OF THE NECK.—In a paper read before the French Congress of Surgery, *Le Progrès Médical*, Calot reports signal success in removing the unsightly and often pigmented cicatrices resulting from the spontaneous opening of suppurating lymphatic glands of the neck. With a bistoury he removes the entire extent of altered skin, encroaching one or two millimetres upon the normal integument. The edges of the wound are then freed from the underlying tissue and brought together with fine sutures, so as to make a linear closure of the exposed surface, no drainage being required. The result in all of thirteen cases thus treated has been eminently satisfactory, showing only a fine linear scar in place of the former ugly, irregular cicatrix.—*Am. Jour. Med. Sci.*

A new building is in course of erection for the School of Medicine of the University of Buffalo.—*Med. News.*

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POLEMIC MEDICINE.

The *odium medicum* is an old thing, and has been from time immemorial at once the bane and the cause of progress of the healing art, as well as the cause of many a gibe from the laity. It exists both as between individuals of the same school, and between the different schools, and must always exist, seeing that opinions must differ in a subject which deals, as that most brilliant literary member of our profession, Dr. O. W. Holmes, says, "not in certainties nor in demonstrations, but chiefly in probabilities." It has been left to the theologians to develop a branch in their curricula, entitled Polemic Theology. Perhaps the medical fraternity, being so occupied in study more important, are kept too ignorant of polemic medicine, and do not know enough of the views and systems taught by other schools than that in which each has been brought up. The "regular" practitioner, in proportion as he is an honest and capable man, can see in the homœopathic practitioner, with whom he refuses to consult, only a knave or a fool. His judgment is not usually based on calm review of the authorities worshipped by his opponent, and in that far cannot be said to be scientifically sound. And it would take so little reading of homœopathic manuals to satisfy a scientifically trained medical man of their utter fallacy, that any practitioner can easily form an independent judgment if he chooses. Dr. G. M. Gould, of Philadelphia, offers a prize of $100 for the best essay of not more than 15,000 words, type written, placed in his hands by January 2nd, 1893, on "The Ridiculous Pretensions of Modern Homœopathic Practice." A jury of physicians will read the essays, and the best will be printed for distribution among the laity, the main condition being that the essay "in simplicity and directness should be adapted to the commonest lay understanding." Giving Dr. Gould credit for the best intentions, we venture to say that the scheme is too much like fighting the devil with fire. Homœopathic practice, as judged by the perusal of their materia medica in both text-books and drug lists of commercial concerns, stands very much nearer the laity than does scientific practice, is very much more easily "understanded (*sic*) of the people," and lends itself far more readily to *ad captandum* argument, and grossly misleading quasi-scientific analogy.

It is all very well to laugh, as does O. W. Holmes, that "if a billionth of a grain of sugar won't begin to sweeten my cup of tea or coffee, I don't feel afraid that a billionth of a grain of anything would poison me,—no, not even if it were snake venom." The answer given in explanation of the claim for increased potency due to increased trituration or dilution, is the false analogy, to any mind with even a blink of pathological and chemical training, utterly indefensible, of the better effect of manure upon soil, the more finely divided it is and the more minutely its portions are brought into contact with the microscopic rootlets, as if a solid when once in a state of solution, could be more finely divided by further dilution. The farmer to whom this analogy was presented would at once think that he saw the point, side with the homœopathic argument, and consider himself as good a man as his doctor, and so he would be if his doctor advanced such an argument. The text-book from which the above amazing explanation (*sic*) is taken is a limbo and chaos of incontinent attack upon men of such eminence as Virchow and Wunderlich, instead of a continuous and logical setting forth of homœopathic tenets. Of inflammation the author says: "Hence in homœopathy, there is neither a specific fever nor a specific inflammation, since all substances, proved on the human body, are capable of producing both fever and inflammation, though each one is different from the other according to the kind of irritation present. . . . To pre-

sent a picture of inflammation in general, even for a single organ, belongs, hence, to the realms of impossibilities, though of this physiological medicine has no idea." It seems a waste of ink to reproduce such pathology as that. The laity cannot be made to see the fallacies of homœopathic practice, since they are fallacies due to ignorance, and to prove them one would need first to instruct his layman in physiology, chemistry, anatomy, and all the subjects of a liberal medical education. How could one set to work to show up the ignorance of the Toronto practitioner, who, to cure ring-worm of the scalp, prescribed some of his globules and quite neglected local measures? And while the public continue to look on disease as many homœopathic practitioners and writers do, as an occult entity, rather than as a condition of the tissues and fluids, a something to be exorcised and banished by the use of remedies, often most disgusting, the action of which is not sought to be understood but is looked on rather with superstitious awe, how can we expect them to side with scientific rather than with occult medicine?

The text-book on homœopathy, to which we refer, says for instance that arnica if sufficiently attenuated will always cause tearing toothache in the left upper molars. That malaria, if accompanied by cold feet and legs, should always be treated by arsenic, but if not, by ipecac; since "in the proving of ipecac there is no complaint of cold feet or soles, whether sitting up or in bed." That "nux vomica and many other drugs cannot be given during the night, because they aggravate just those very phenomena of disease which they should relieve, and which when given during the day they do relieve and cure." That "humid asthma," and other lung diseases, are cured completely by the adminstration of dried lung of the fox in trituration of one grain of lung in 100 grains of sugar of milk, given in one grain doses every hour, the *rationale* being that the *pulmonic acid* (/) of the human lung being deficient, as evidenced by the disease existing, it can be best replaced by giving the above dose of the lung of an animal fabled to always have strong lungs. How show the mediæval ignorance and folly of such therapeutics to the average lay mind, when the laity persist in ideas which made it possible recently, for instance, for a mother in the country, near Toronto, with all its medical schools, to empty the bottle of expectorant mixture prepared for her son by the doctor, and substitute a decoction of sheep-dung, the boy being induced thus in ignorance to take the disgusting mixture, which he would otherwise have refused, and the cough hitherto intractable to "doctors stuff" yielding promptly to the mother's treatment, as the mother fondly and firmly believed! Probably the majority of homœopathic practitioners would repudiate now such therapeutics, and claim a more rational system. But if they practice scientific medicine, as in proportion to their success in serious cases they must, why, if honest, do they persist in arrogating to themselves the trade mark and title of homœopathy, unless it be to injure so far as they can the honest man who practices under his true colors, and to deceive the public into thinking that they have some new and better way of evading death, while the "allopath," that title of offence to the class purposely so dubbed by the rival school, still gropes in the darkness of ages past and gone?

THE ONTARIO MEDICAL COUNCIL.

That there is a widespread dissatisfaction among certain members of the profession, regarding the more recent acts of the Council cannot be ignored, though such feeling is much to be deplored. It must be admitted that our Council has done good work for the medical fraternity of Ontario. If we consider the protection that is afforded to regular and educated physicians, the steady elevation of the standard of requirements in medical knowledge, necessary before a candidate receives the *imprimatur* of the Council, so that our licentiates take and hold a respectable, nay, even honorable position, as regards their training, in any part of the world, and as compared with licentiates or graduates from any dical learning anywhere, and the certainly not extravagant or expensive manner in which this has been accomplished, surely it must be granted that the Council has done much good work.

Mistakes have no doubt been made; no body of men is infallible, but we cannot but think that, looking at the status of the profession in Ontario to-day, and comparing it with what it was at the time of inception of the Council, the work of that body has been, on the whole, such as must commend itself to

every reasonable member of the profession. There seems to be a feeling of annoyance among some that they shall annually pay the sum of $2 towards the maintenance of the Council, which has become so obnoxious to them, and for the defraying of such necessary expenses for the conducting of examinations, registrar's salary, etc. Surely the amount is not too great for a man to pay yearly, for the support of body upon the integrity and business capacity of which, the very existence of his profession depends. If the members of the Council, individually or collectively have been either incapable, or guilty of dereliction of duty, then let the fiery cross be sent round, and let them, individually or collectively, be returned to their homes and other good men and true sent to fill their places, but do not let us in the present age complain that the impost is too much. How much does it cost a man per annum to belong the the Masonic order? Just about three times as much as to belong to the medical brotherhood by which he earns his living, and which *must*—if we do not wish to be overrun by quacks and charlatans, and if we wish our rising generation of medical men to be properly educated, and take their place in the ranks of the educated men of the world—which *must* be supported. No medical man will attempt to compare the importance to the medical profession of one or other of these institutions being maintained, and yet how many doctors—they are nearly all enthusiastic Masons, and all the better for it—pay without a murmur the amount considered necessary for the proper running of the honorable and respected Masonic machine, from the Grand Lodge down.

The Masonic body has been instanced, but the annual dues of many other secret organizations might be given to show that $2 per year is a sum, small indeed to pay for the maintenance of the honor and dignity of the grand and noble profession. The druggists pay $4 for their protection, which it must be admitted is not nearly so complete or certain in its working as ours. The lawyers pay about $18, and we do not hear any revolutionary murmur in the camp. They either pay or quit the game.

The majority of the aggrieved ones, however, and it may be said to the honor of that majority, resent, not the amount to be paid, but the threat by which the "dun" is accompanied; viz., that the names of all who do not pay shall be expunged from the register, rendering them legally unqualified to practice in Ontario, though they received their degrees and licences to practice for life many years ago. They regard the punishment as altogether out of keeping with the delinquency—that of failing to pay a trifling sum annually.

They enquire—Is not a power like this, given, in equity, if not in law *ultra vires?* Could the collection of the dues not have been secured in a fairer and less irritating manner?

The answer to the above, appears to us, who have taken some pains to get at the true inwardness of the doings of the Council as regards its financial operations, more especially as to the collection of dues, seems plain. When the annual due was $1, many men, we fully believe from forgetfulness and the habit of procrastination, did not pay. It was not that they wished to evade the law, or get out of paying their just dues; they would have been indignant, and rightly so, if any one had seriously imputed to them the desire to sneak out of paying what they owed to the profession, $1 per year, and yet *they did not pay.* This same habit of procrastination in the payment of small debts is not singular to those owed to the Council; would it were so.

So, many of the registered members *did not pay.* How could they be made to pay? By ordinary suit in the Division Court of the district where the delinquent lived. This proceeding was found to cost nearly as much as it came to, so that it was a sadly losing game for the Council. (See President Williams' address, CANADA LANCET, July, '92.

So far as irritation and annoyance is concerned, it cannot surely annoy a man who intends to pay his dues, to have certain penalties attached to his non-payment of them. It is not fair that some should pay, and some go scot free. Yet this was exactly what was happening under the old *régimé*, in spite of the powers vested in the Council, for it did not pay to collect by an ordinary suit at law the dues owing the Council, and necessary for its proper maintenance. If any due is necessary, and if $2 in a year is not too much, both of which propositions seem clear, what difference can it make to an honest man who intends to pay, what penalty is attached to his non-payment, even were that penalty—death by hanging!

DRUNKENNESS AS A DISEASE.

The constancy with which the various so-called cures for inebriety are foisted upon the public and the frequent disappointment of those who pin their faith to the utility of drugs as in inherited or acquired disturbance of the higher nervous system, indicates how much yet remains to be done in the way of educating public opinion up to the proper comprehension of the complicated process, involved in the "cure" of a condition arising from such different and even conflicting causes. The *Medical Press and Circular*, speaking on the subject, remarks, "The treatment of chronic inebriety by restraint, is just now upon its trial, but although it yields a certain proportion of successes, it has not yet falsified the adage that *qui a bu, boira.*"

In America, the so-called "Gold Cure," is attracting a great amount of attention, and certainly seems to do good in a large per cent. of cases treated, though controversy exists as to what extent it may be due to "moral effect." Keely, the originator of the treatment, claims that 95% of his patients are cured of all taste or desire for alcoholic stimulants, but admits, that if the "graduate" deliberately sets about cultivating the taste for it, he may become as badly off as before. But speaking of the treatment by restraint, or sequestration, we find it is only useful in cases where the habit has been acquired by self-indulgence, with no element of heredity in the case.

This is, however, not condemnatory of the system of self-sequestration, which is all that the law has seen fit to authorize. The most regretable cases, and, at the same time, the most hopeful ones, are those persons who have fallen victims to the habit, owing to a want of prudence in the use of alcoholic stimulants. The average healthy man only resorts to liquor for social reasons, or to whip up his system when jaded and fatigued from overwork or worry, the temporary relief, so ob tained, however, draws upon a store of latent nerve force, which, from constant depletion, weakens the will power, necessarily dependent, as a manifestation of nervous change or action, upon a thoroughly healthy condition of the nerve store, or latent accumulation of psycic energy; until at last the fatal day arrives, when the unfortunate victim finds himself the irresponsible slave of a new growth of nerve-cells, whose ancestors in the economy, so to speak, have handed down to them an inability to perform their functions properly without alcohol, just as the want of oxygen in the circulation causes an "air craving," in the cells of the respiratory centre. In such cases there existed no lack of self-control or will power at first, and until the habit became a disease or rather an intrinsic nerve condition, this will power could have been exerted with good effect. It is in such cases that restraint, for a longer or shorter period, as the case may call for, is of great utility in bringing about a cure. But, on the other hand, in the poor unfortunate born into the world, a child of his ancestor's middle life, and formed habits of indulgence in sack, Madeira, or other stimulants so fashionable in other days, morally weak from the beginning, predestined, we might almost say, to ruin, if brought into contact with drink, we find that sequestration lamentably fails, and that the only hope lies in his never touching the drug, and being taught when a child wherein his danger lies. A great many such cases are unfortunately seen among the mentally gifted; how many do we all know of, who seemed to have success, power, riches, happiness at their command, who suddenly faltered in the race of life, struggled hopelessly for a time, and sank back into a drunkard's grave. Others, again, become affected at certain periods with the "drink crave," having little or no desire for it in the interval. Such cases resemble the disease to which the French psychologists have given the expressive name of *folie circulaire*, which is characterized by periodical outbreaks of mania, the patient being lucid in the interval, but requiring restraint during the attack. In many cases of this rhythmic "drink crave," the condition may be looked upon as an alternative manifestation, to epilepsy, insanity, or other nervous diseases, which upon investigation may be found to mar the patient's family history, so that we clearly see the hopelessness of drug treatment in such a condition of affairs, there being an inherited lack of nutrition of the higher nerve centres, the unfortunate victim being really a moral idiot. In conclusion, thinking men must agree, that great caution is to be exercised in the acceptance of any one cure for all classes of inebriates, remembering, that although many who have acquired the habit may be treated with success, those belonging to

the other categories are unfortunately doomed to outbreaks, so long as the stimulant is manufactured, and may be obtained by them.

CANADIAN MEDICAL ASSOCIATION.

The twenty-fifth annual meeting of the Canadian Medical Association will be held in Ottawa on Wednesday, Thursday and Friday, 21st, 22nd and 23rd September, under the Presidency of Dr. John L. Bray, of Chatham, Ont. Arrangements have been made with the G. T. and C. P. Railways whereby members may obtain return tickets for one fare and a third. Members and delegates must procure certificates from the station agent at place of departure.

Judging from the number of members and delegates who have signified their intention of being present, the meeting to be held in Ottawa will in all probablity be a very successful one.

Members desirious of contributing papers will kindly communicate with the General Secretary (Dr. Brickett, 123 Stanley Street, Montreal) at as early a date as possible. Appended is a partial list of papers:

Address in Medicine: "The Treatment of Pulmonary Tuberculosis"—Dr. J. E. Graham, Toronto. To be discussed by Dr. Prevost, Ottawa.

Address in Surgery: "Observations on the Progress of Surgery in our own Day"—Dr. Donald MacLean, Detroit, Mich. To be discussed by Dr. V. H. Moore, Brockville.

Address in Obstetrics: To be discussed by Dr. Harrison, Selkirk.

Gastro-Enterostomy—Dr. L McFarlane, Toronto.

Chronic Bright's—Dr. McPhedran, Toronto.

Intussusception and its Treatment by Operation—Dr. F. J. Shepherd, Montreal.

Treatment of Abortion—Dr. K. N. Fenwick, Kingston.

The Management of Goitre—Dr. Dupuis, Kingston.

Uric Acid in Children—Dr. A. D. Blackader, Montreal.

Diseases of the Naso-Pharynx associated with Ocular Affections—Dr. Buller, Montreal.

Prostatectomy—Dr. Geo. E. Armstrong, Mon-

Appendicitis— Dr. H. P, Wright, Ottawa.

Biological Analysis of Some Canadian Water Supplies—Dr. Wyatt Johnston.

Unrepaired Laceration of the Cervix the most Common Cause of Epithelioma of the Cervix Uteri—Dr. Lapthorn Smith, Montreal.

Case Illustrative of the Influence of Diseases of the Female Generative Organs upon the Visual Apparatus—Dr. Ryerson, Toronto.

(1) Two Early Deaths from Gonorrhœa; (2) Enterectomy for the Cure of Fæcal Fistula—Dr. H. H. Chown, Winnipeg.

An Epidemic of Morbilli Hæmorrhagici—Dr. C. J. Edgar, Sherbrooke.

Hemorrhage in the New-born—Dr. F. A. L. Lockhart, Montreal.

(1) Administration of Chloroform and the Dangers incident thereto; (2) (*a*) Phlebitis of the Left Femoral Vein caused by an Embolism coming on three weeks after Hysterectomy. (*b*) Aneuism of the Abdominal Aorta—Dr. J. D. Balfour, London.

....—Dr. A. E. Praegor, Nanaimo.

(1) Notes on Eye Lesions consequent on Nasal Affections; (2) Traumatism of the Labyrinth—Dr. Geo. Baptie, Ottawa.

Papers have also been promised by Sir James Grant (Ottawa), Dr. Mullin (Hamilton), Dr. Geo. McDonald (Calgary), and Dr. Johnston-Alloway (Montreal).

A special general meeting of the Association of Medical Officers of the Mititia of Canada will be held during the session of the C.M.A.

GOLDEN RULES OF SURGICAL PRACTICE.—*Continued—(Times and Reg.):*

GENITAL-PENIS.—Never sanction a lengthened or adherent prepuce—circumcise.

Never despise any skin in stitching up scrotal wounds—the worst flap will heal.

[Warm a wound of the scrotum before uniting it with sutures.]

Always slit the urethra downwards in amputation of the penis, and stitch the angles outward.

Always keep a catheter in position continuously in injuries to the penis, if the urethra is divided.

Do not tap a hydrocele without examining the position of the testicle with the light.

Do not strap a testicle without shaving the scrotum.

Do not give a decided prognosis of a solid slow-growing tumor of the testicle in which hydrocele co-exists, before you have tapped the hydrocele and examined the gland carefully. It may be non-malignant. If any doubt exists after this advise a free incision.

GONORRHŒA.—Never forget to warn your

patient about his eyes in treating a "*first*" attack of gonorrhœa.

In giving a "*first*" case of gonorrhœa copaiba, always warn your patient of the possibility of the eruption.

Never neglect in treating gonorrhœal rheumatism to cure the discharge as speedily as possible.

In examining the cause of a knee synovitis of a young man never omit to examine the penis for gonorrhœa or gleet.

In inquiring into a history of syphilis do not hastily judge of the statement of the patient that a rash was syphilitic; inquire about copaiba.

Never use an injection if there is much pain, scalding, or inflammation, unless it be cocaine.

Never forget many gleets are due to slight contractions of the canal, and may be cured by a steel bougie.

HAND AND FOOT.—Do not forget that it is wiser, in cases of supposed needle in hand or foot, when the patient is not suffering much inconvenience, not to cut down unless the end of the needle is felt.

Never estimate the amount of flat foot when your patient is *sitting*, because the weight is taken off the arch.

Do not forget that the foot may be amputated for supposed strumous disease of the tarsus when, on examination, the affection might have been proved to be limited to one of the tarsal bones, and the patient might have been cured by a less extensive mutilation.

Do not despise or neglect corns, bunions, or ulcers of the leg in the aged, or diabetic. They often start gangrene.

(*To be continued.*)

GONORRHEAL CEREBRO-SPINAL MENINGITIS.—Dr. Stiénou (*Jour de Méd de Bruxelles,—Med. Rec.*), relates a case of cerebro-spinal meningitis in a young man, which, according to the author's views, was due to the location in the cerebro-spinal meninges of gonococci from a urethritis which was found present, just as the germs of epidemic cerebro-spinal meningitis, typhoid fever, erysipelas, acute rheumatism, etc., are capable of vegetating in this region and developing their effects The occasional production of arthritis, peri- and endocarditis, periostitis and neuritis, from the presence of this microörganism, plead in favor of the author's hypothesis and permit the conclusion that while meningeal manifestations from gonorrheal infection are very rare, they are by no means impossible.

In connection with this subject the following will be of interest: In the Johns Hopkins Hospital Bulletin for May, Dr. W. T. Howard, Jr., reports the case of an infant operated upon for imperforate anus in which the rectal wound suppurated. The child died in the second month, of purulent ependymatis, meningitis, and encephalitis, and a bacteriological examination of the pus from the inflammatory area showed the presence of a micrococcus and of the *Bacillus coli communis*. The child had atresia of the pulmonary orifice of the heart and patency of the foramen ovale and of the ductus arteriosus, and the reporter thought the feebleness of the circulation had favored the mixed infection by means of the suppurating rectal wound. He calls attention to Netter's bacteriological examination of twenty-five cases of simple meningitis, in which the *Diplococcus pneumoniæ* was found present in fifteen; the *Streptococcus pyogenes* in four; an intra-cellular diplococcus in two; a short, active bacillus, the bacillus of Friedländer, and a slender, small bacillus, respectively, in the three remaining cases. Monti also found the *Diplococcus pneumoniæ* in the pus of four cases of meningitis; and the frequency of the presence of pneumococcus is explained by the fact that meningitis is so often secondary to pneumonia and otitis media. Besides these micro-organisms, Dr. H. M. Biggs, reported, at a recent meeting of the Section in General Medicine of the New York Academy of Medicine, a case of meningitis in which he had found the bacillus of anthrax, although there had been no local focus of that disease on the body. It is interesting to note the varieties of micro-organisms that may cause meningitis.

NEW TREATMENT OF ASTHMA.—Dr. B. O. Kinnear (*N. Y. Med. Jour.*), holds that asthma is a nervous disease, the circular bronchial muscles being chiefly affected. The pneumogastric nerves and their congestive centres are mainly responsible for the asthmatic paroxysms. By excluding the blood from these centres, their function is rendered normal; consequently the muscles about the bronchi expand, and the swelling of the mucous membrane subsides. This

result is obtained by ice applied over the spine in such a way, that, the circulation being naturally distributed over the body, the congestion of the centres is at once lessened in the acute attack. He maintains that ice over the spine dilates the arteries throughout the body, distributing the blood to organs and tissues where there has been an insufficient supply. The ice is applied in bags extending from the 4th cervical to the 3rd lumbar vertebra daily, in time varying from three-quarters of an hour to four hours. Six cases are reported. *Case I*, is that of a woman 60 years of age, who was a sufferer from asthma for 16 years. Ice was applied in a full length bag, and used four hours a day, an hour at a time. The patient was practically well in six weeks. *Case II*, that of a boy with hereditary asthma. Application of ice bag at once relieved the paroxysm. The results in the other cases show, that the asthmatic attacks may be subdued or controlled by the application of ice to the spine, and that if the patient is not too old, or the disease of too long duration, cures may result.

Delegates to the Dominion Medical Association.—The following are delegates from the Ontario Medical Association to the Dominion Medical Meeting, in Ottawa, Sept. 20th: Drs. R. W. Hillary, President; Drs. Chas. O'Reilly, J. E. Graham and D. J. Gibb Wishart.

Women's Medical College, Toronto.—The following appointments have been made in the staff of the Women's Medical College here:—Dr. G. Gordon, Lecturer in Sanitary Sciences; Dr. F. Cane, Mental Diseases; Dr. S. Boyle, Histology; Dr. J. Gray, Assistant in Anatomy.

To Lance a Swollen Tonsil.—Christopher Heath says (*Internat. Clin.*):—Do not try to get round the anterior pillar of the fauces, but go straight back through the soft palate, and no effort on your part can possibly bring the knife into any relation at all with the carotid vessels. Open the upper part of the tonsil.

Turpentine in Typhoid Fever.—Dr. H. C. Wood (*Therap. Gaz.*), believes that turpentine is of great service in healing intestinal ulcers, which, after the fever, so often cause diarrhœa and intestinal indigestion. Again, the remedy is of great service when we have tympanites with dryness of the tongue, developing in the end of the second week of the disease. Wood, believing that turpentine acts locally, that in all cases of typhoid fever ulceration exists, that properly administered the drug is incapable of doing harm, is in the habit of giving towards the close of the second week of typhoid fever turpentine, without looking for special indications, and, as the result of an experience of considerably over a quarter of a century, he believes the practice to be a good one, and that the use of turpentine does distinctly tend to lessen the severity of the local lesions in enteric fever. In closing this brief paper, attention is called to the powers of glycerin in disguising the taste of turpentine; the following formula is given:

R—Ol. terebinthinæ . . . f ʒ viii.
Glycerinæ . . . . . f ʒ i.
Mucil. acaciæ . . . . f ʒ iss.
Aquæ menthæ piperitæ, q.s. ad f ʒ viii.—M.

Sig.—Tablespoonful every four hours during the day. Shake well.

Magnesium Sulphate in Catarrhal Inflammation of the Digestive Tract.—Dr. S. Bradbury (*N. Y. Med. Rec.*), has had considerable experience with this remedy in inflammation of the mucous, areolor and muscular coats of the bowel, and thinks very highly of its efficacy in such conditions. The dose administered must be a large one. He says: "I have found, in a large experience in using this salt, that small doses do more harm than good. The smallest dose for an infant should not be less than a heaping teaspoonful, and a great spoonful may be given without harm. The truth is, the greater the dose the less it gripes. In my case above, I took half a pint of clear salt dissolved in water without the slightest griping when operating. This medicine does good in the case mentioned, evidently by producing a copious discharge from the lining of the digestive tract, without having any but the slightest effect upon the muscular coat. It is totally unlike ordinary cathartics, it simply causes the excretion of fluids from the digestive mucous

membranes, hence the safety in giving large doses, as the intestinal muscles are not acted upon by them."

ACROLOZONE, "HARVEY'S."— Manufactured in this city, is a somewhat similar, but much more staple preparation than hydrogen peroxide. It is a powerful antiseptic and can be used with greater freedom than the peroxide, owing to itsbeing unirritating. It is of particular value as a wet dressing for ulcerated surfaces, serviceable in cases of chronic suppuration, and simply invaluable in diphtheria. It is also being administered in teaspoonful doses, in certain cases of dyspepsia.

CORRECTION.—In our last issue, in the proceedings of the Ontario Medical Council, at p. 375, we stated that Dr. Moore moved a resolution relative to the Finance Committee. It should have read "Dr. Millar moves," etc.

Books and Pamphlets.

A TEXT-BOOK OF THE PRACTICE OF MEDICINE, for the use of Students and Practitioners. By R. C. M. Payne, M.D., Professor of General Medicine and Diseases of the Chest, in the New York Polyclinic, etc. Wm. Wood & Co. N.Y., 1892.

This new volume, which is by no means one of the compend or quiz sort of text-book, is a very compendious treatise upon the large and important subject undertaken. One may make its scope plainer to Canadian readers by saying that it seems to occupy the same place in medicine as does Walsham in surgery, and while it seems incorrect to call it a text-book for the use of practitioners, it would appear very well suited to the purpose of the student. Even on the latter, however, it is probable that the effect of the exclusive use of such brief treatises in student days is not good, as tending not to develop the habit of reading in more extensive works; a habit which will not be well formed in the busier journal-reading days of practice, if the foundation be not laid before those days begin. The classification of diseases is modern and refreshing, rheumatism, articular and muscular, being classed where they belong, among the acute infectious disorders. Diseases of the heart and respiratory system alone occupy rather more than one-third of the book, a circumstance due, perhaps, to the natural insistence of a specialist upon his own subject. The paper is excellent, and the typography very good, but the lack of proper paragraphing, and arrangement of the subject on the page so that the untrained eye and mind of the student may be aided in reducing order from chaos, is very apparent. It strikes one as unscholarly to see Latin and English incongruously mixed, as thus: "Fl. ext. ergot," where "ext. ergotæ fl." is meant; or thus, "I have usually given it in ten-grain doses ter die for about six weeks"; or thus, in a prescription, "Pulv. potass. iodidi, Fowler's solution, aquæ q.s. ad." etc.

A TEXT-BOOK OF NURSING; for the use of Training Schools, Families, and Private Students; compiled by Sarah S. Weeks-Shaw. Second edition, revised and enlarged. Illustrated, pp. 391. New York: D. Appleton & Co. Toronto: Carveth & Co., 1892.

This new edition is up to date, as regards the new procedures in surgery—those of the last half dozen years—and with which every trained and competent nurse should be familiar. A chapter on Gynæcology has been inserted, and it will be a welcome addition to the book. The book presupposes a certain knowledge of anatomy and physiology, it having been found impossible to incorporate these. The work is well written, and well printed, the illustrations are good, and, taken as a whole, the work is perhaps the best we have seen on the subject.

ESSENTIALS OF DIAGNOSIS; Arranged in the Form of Questions and Answers, prepared especially for Students of Medicine. By Solomon Solis-Cohen, M.D., and Augustus A. Eshner, M.D., with fifty-five illustrations, some colored, and a frontispiece. Philadelphia; W. B. Saunders, Toronto: Carveth & Co.

This is one of Saunders' well known series. The price is $1.50; pp. 382. The general scope of such work is well known. While they must be harmful to the student if read to the exclusion of standard works, they certainly fill a place in the student's room,—that of the old-fashioned note book. The present volume is well up with the most modern ideas regarding diagnosis. The differential diagnosis of diseases will be of much use the student.

THE CANADA LANCET.

A MONTHLY JOURNAL OF

MEDICAL AND SURGICAL SCIENCE, CRITICISM AND NEWS.

Original Communications.

THE PREVENTION AND CORRECTION OF DEFORMITY IN THE TREATMENT OF HIP DISEASE.

BY D. E. MCKENZIE, B.A., M.D.,

Lecturer on Surgical Anatomy and Orthopædic Surgery in the Woman's Medical College, and Surgeon to the Victoria Hospital for Sick Children, Toronto.

In the management of hip disease, whatever may be the explanation, there is a tendency to flexion and adduction of the limb. Whether the case be treated by operative measures, by mechanical appliances, or by the expectant plan, this tendency to deformity is strongly marked, and persists throughout the period of convalescence. There may be seen upon the streets every day, persons who have suffered from this affection, who have recovered from the disease, but who are conspicuous because of unnecessary shortening of one leg, and deformity. (In Figs. 1 and 2, strongly marked cases of the deformity are shown).

Early in the history of the disease, flexion of the femur upon the body is very generally observed, and if means for its rectification and prevention be not employed, it is likely to persist to the end. It is not uncommon to find flexion increasing during the progress of the disease, until the axis of the affected femur is at right-angles to that of the body. In their early history, some cases have the limb abducted from the middle line, but even these, as time passes, so change, that the limb on the affected side becomes adducted. Even when a period of quiescence sets in, and the case is proceeding satisfactorily to recovery, and also after successful operation, the tendency toward these two positions of deformity, viz., flexion and adduction, persists.

By a reference to these diagrams, it will be seen how adduction of the limb causes apparent or practical shortening. The line *ab*, Fig. 3, joining the acetabula, is normally horizontal, and the lines *ad* and *bc*, representing the lower extremities, are equal in length and symmetrically placed, so that the angles at *a* and *b* are equal. If *b* represent the affected joint, then, through adduction, *bc* takes the place *bc'* and the angle at *b* is made smaller. Now as the patient cannot walk with the limb in this relative position, and the limb is prevented from movement at the joint *b*, the pelvis on that side is drawn upward and the angle at *a* is increased, as in Fig. 4. The limbs are thus brought into symmetry of direction at the expense of apparent shortening. This is well illustrated in Fig. 1.

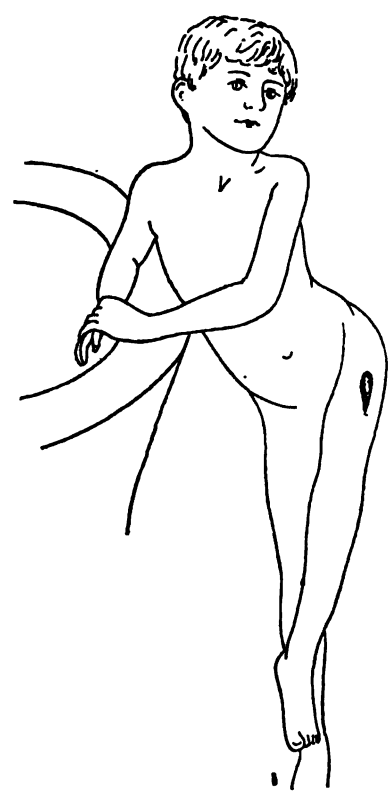

FIG. 1.

By a reference to Fig. 2, it is seen how flexion causes lordosis. The affected limb is strongly flexed upon the pelvis, and an attempt made to extend the leg, so as to bring it into line with the body, at once produces compensatory flexion in the lumbar vertebræ.

Consequent upon these two deformities, it is not uncommon to have several inches of apparent shortening in cases where there is no real shorten-

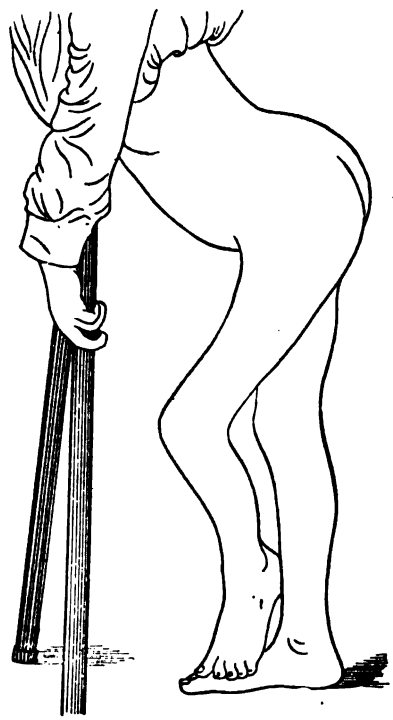

Fig. 2.

ing of the limb. In the case, Fig. 1, the affected limb was really two inches shorter than its fellow, while the practical shortening was six inches, because of tilting of the pelvis. In the same cut it is well shown how another deformity, namely, curvature of the spine, is dependent upon the upward tilting of the pelvis on the affected side. As, when the pelvis is tilted forwards, compensation is made by the lumbar flexion backward, so when the pelvis is tilted laterally, there arises a compensatory lateral curvature. Thus it will be seen that flexion of the limb upon the body and its adduction toward the mid-plane are not only unsightly deformities themselves, but they are important causative factors in the production of practical shortening and curvature of the spine.

Treatment.—A case efficiently treated from the commencement of the disease, by rest in bed, by the American traction splint, by the Thomas' posterior hip splint, or other means, may easily be kept from acquiring these deformities. When, however, they are already present, the mechanical problem implied in their correction is presented for solution. It is my practice when the deformity is strongly marked, to put the patient in bed, secure the sound limb and body in the horizontal position by the application of a long splint from the axilla, extending about ten or twelve inches beyond the foot, and at this point secured

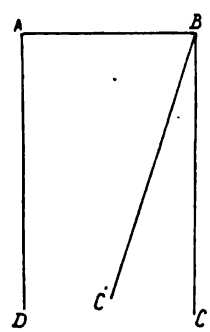

Fig. 3.

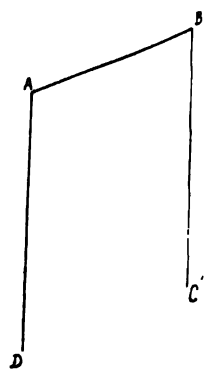

Fig. 4.

to the bed. Extension is now applied to the affected limb, pulling very nearly in the line of the axis of the limb, as determined by the deformity. Fig. 7 (Howard Marsh, "Diseases of the Joints," p. 398). This treatment is continued until the adduction and flexion of the limb are lessened or entirely corrected. (Fig. 8 is Fig. 7 after treatment).

When the deformity is thus corrected, I follow by the adjustment of a splint, so that the patient

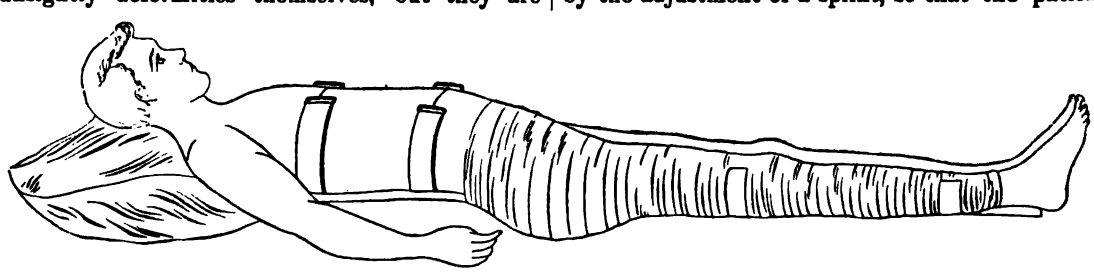

Fig. 6.

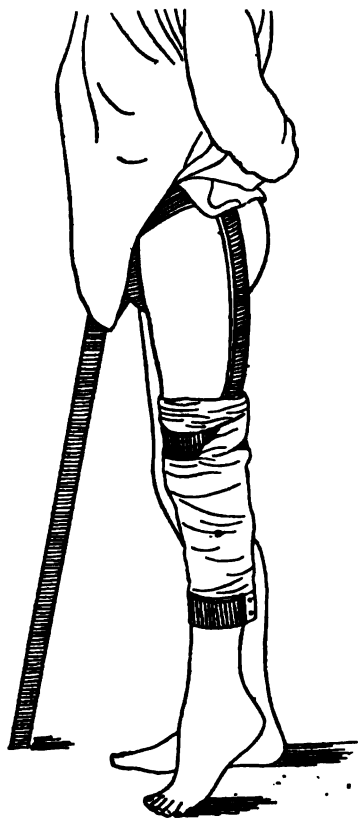

FIG. 5.

can walk about and have the advantages of sunlight, fresh air and exercise. The splint shown in Fig. 8 (same patient as in Fig. 1) represents a form of traction splint which has been largely used in the United States. It consists of a rigid horseshoe shaped band about the pelvis, and a steel stern attached immovably to this band, which extends below the foot two or three inches. The straps attached to the foot-piece in which this stern terminates, are buckled to straps secured to the leg by adhesive plaster and bandages. Thus extension is made upon the limb, while counter-extension is made by padded straps passing under the perineum and attached to the pelvic band. It is thus seen that the splint may be made powerful, to prevent and correct adduction, as the knee is not permitted to bear the whole weight of the limb and its splint is exerted to prevent or correct flexion also.

The Thomas' hip-splint (Figs. 5 and 6) secures immobilization and may be used to correct flexion. If the splint be applied so as to fit the limb in its flexed position, after a few days or weeks of immobilization thus secured to the joint, the stern of the splint may be made straighter by several degrees, and the muscles having become relaxed, owing to the rest which the joint has enjoyed, the limb easily permits of extension to the same extent.

There are some cases in which contracture of the flexor and adductor muscles has occurred, which do not readily yield to any of the methods of treatment described. In such, tenotomy or myotomy may be performed, the limb placed in a correct position, and the American or the Thomas' hip-splint be employed. Such was the treatment adopted in case shown in Figs. 2 and 5.

When anchylosis is found at the joint, osteotomy at a selected point in the upper extremity of the femur is better practice than the breaking up

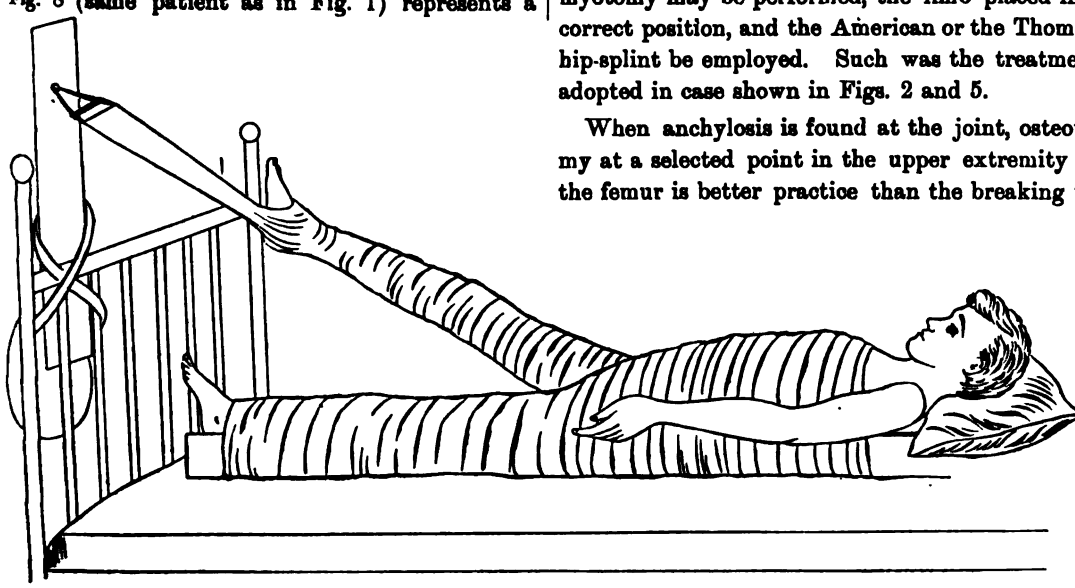

FIG. 7.

of the fibrous or osseous attachments by manipulation. Whatever means may be employed for the correction of the deformity, it is necessary that a retentive appliance be used, in order to keep the limb in position until recovery follows. The same tendency to adduction and flexion is manifested after operative procedures for the removal of diseased tissues, and the same necessity arises for the prolonged employment of mechanical means.

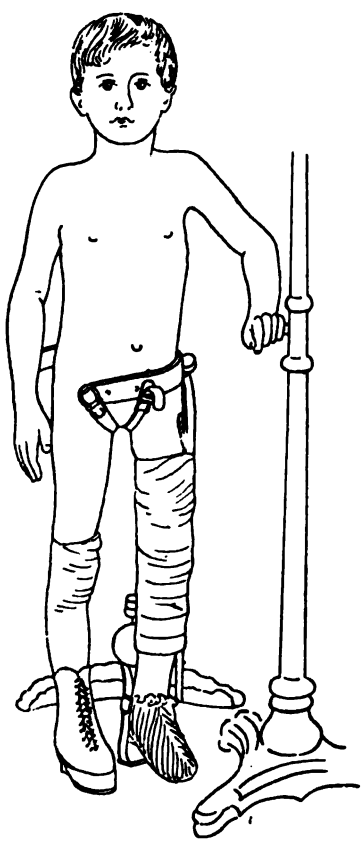

Fig. 8.

By intelligently carrying out the principles advocated, every case of hip-joint disease may be brought to a termination without any deformity, except such as results from the arrest of growth, or arises from the destruction of tissue by the ravages of the disease.

So marked and uniform is the tendency to adduction, that it is not necessary to correct abduction when it is found to exist. A case that has the limb abducted early in its history, will be one of adduction at a later stage. In order to insure success, the mechanical appliances require constant attention, and it is necessary that there be an intelligent grasp of the mechanical problems presented. Splints are frequently supplied by the makers of surgical appliances, that are not only useless, but harmful. In order to get satisfactory results, the appliances must be of sufficient strength and resistance to keep the affected limb entirely at rest, after reduction of the deformity has been effected.

IMMEDIATE CLOSURE OF THE WOUND AFTER SUPRA-PUBIC CYSTOTOMY.*

BY A. GROVES, M.D., FERGUS, ONTARIO.

The object usually aimed at by the operative surgeon in regard to the wound he makes, is that it shall be healed up in the shortest possible time, and with the least disturbance to the general economy of the system. Immediate union is the ideal result we are all striving for, and in wounds of the bladder this is especially desirable, on account of the constant escape of urine through an open wound. I believe immediate closure of the wound after supra-pubic cystotomy is not only feasible, but that it should be done in almost every case. In cases where a supra-pubic opening is required, the bladder is generally in an unhealthy condition, containing, it may be, ropy mucus, pus, cast-off epithelium, decomposing blood clots, and fœtid urine. Such a state of affairs will, unless corrected, frustrate the attempt at obtaining immediate union in the wound, and renders necessary as a preliminary measure, the most careful antiseptic cleansing of the bladder. Copious and frequently-repeated washing of the viscus with antiseptic solutions should be made for some days and for this purpose Thiersch's solution of salycilic and boracic acids will usually be found quite efficacious, the patient being kept entirely at rest. When the urine is alkaline, benzoic acid administered by the mouth will be found of value.

At the time of operating, the bladder receives a thorough washing out, so as to remove all septic matter, and destroy the septic activity of the diseased mucous membrane, and is left moderately filled with an antiseptic solution. As soon as the incision has been made so as to expose the blad-

*Read before the Ont. Med. Association, June, 1892.

der, and when ligatures have been passed through the bladder walls for the purpose of steadying it, the fluid had better be drawn off by a catheter before the bladder is incised, for even a supposed antiseptic solution poured from a diseased bladder over a fresh wound is by no means to be regarded without apprehension. The object of the operation having been accomplished, whether the removal of a stone, the excision of a tumor, the simple exploration of the bladder, or whatever else was found necessary, the whole wound must be thoroughly flushed with a bichloride solution. The wound in the bladder is now to be brought together, and for this I prefer a continuous buttonhole catgut suture, the needle being entered about one-third of an inch from the margin of the wound and passed down to, but not through, the mucous coat, and entering the opposite lip between the mucous and muscular coats, it emerges a third of an inch from the edge. The intervals between the stitches should not be more than one-tenth or one-eighth of an inch, and in no case should the mucous membrane be penetrated by a stitch, for, in case this should occur, a passage is made for septic infection from the bladder, and the success of the operation, in so far at least as immediate closure is concerned, will be seriously compromised. The bladder having been closed, the wound is again thoroughly disinfected with a one-in-two-thousand bichloride solution, and the tissues between the bladder and skin brought together with catgut; lastly, the skin wound itself is brought into accurate apposition in its entire extent, by stitches placed not more than one-third of an inch apart. A gauze dressing, with a layer of absorbent cotton and a bandage completes the toilet of the wound. A soft catheter is retained in the bladder, and special care should be exercised that no urine accumulates, more especially during the first three or four days; but should it be impossible from any cause, to keep an instrument constantly in the bladder, the passing of a soft catheter every three or four hours will be quite sufficient to prevent the pressure of the urine from opening the wound. If, in any case, there should be a contracted bladder or persistent desire to pass water, the catheter should either be retained or passed at short intervals, and the time between each catheterization lengthened; but for the first two weeks not more than six hours should be allowed to elapse between two evacuations of the bladder, and the patient should be warned not to make any effort at urinating when the catheter is not in use. Experience may, and I believe will, prove that the time when the catheter can be dispensed with is less than two weeks, but it is better to err on the side of safety.

Although this method of treating the wound after supra-pubic cystotomy is materially different from that usually practiced, I feel satisfied its adoption will quite perceptibly increase the percentage of recoveries and will at the same time immensely lessen the suffering and discomfort of patients who would otherwise have a slowly cicatrizing wound from which pus and urine would escape more or less continuously for many days. Simply bringing the edges of the bladder wound together is only a half measure, and like all half measures, is generally a failure. The thin walls which have only recently adhered, lying at the bottom of an open wound, and bathed constantly on one side with urine and on the other with pus are almost sure to come apart, but with the support given by closure and adhesion of the overlying tissues the bladder remains from the beginning closed up, and with ordinary care I am persuaded no untoward event need be dreaded.

BACTERIOLOGICAL NOTES.

BY E. B. SHUTTLEWORTH.

Removal of Aniline Stains from the hands.—The stains used in microscopic work are sure to leave their mark on the hands of the operator, and those who use pyoktanin, in ordinary practice, seldom escape the evidence of their manipulations. A little alcohol, or hydrochloric acid, will generally remove the greater part of these dyes, but, to do it completely, some bleaching agent is required. Sodium hypochlorite, in the form of Labarraque's solution, or that of the calcium salt, are quite effective, but leave behind the very disagreeable odor of these compounds. Unna has lately recommended a method which is convenient and unobjectionable. The hands are first washed in a solution containing a little—say five per cent.—of common salt, and then in hydrogen peroxide solution, of about the same strength, being finally wiped with a cloth moistened with alcohol.

Transmission of Tubercle Bacillus from Mother to Fœtus.—The London *Lancet* attaches considerable importance fo the recent claim of Birch-Hirschfeld and Schmal, that they have clearly demonstrated the passage of the bacillus of tubercle from mother to child. The patient died of tuberculosis during the seventh month of pregnancy, and, immediately after death, the child was removed by Cæsarean section. It was then dead, but, shortly after the death of the mother, had been felt to move. Autopsy showed decided evidence of tubercles in the lungs of the mother, though not in those of the child; but the bacilli were found in the umbilical cord and the blood of the umbilical vein. Small pieces of the liver, spleen and kidneys were introduced into the abdominal cavity of two guinea pigs and a rabbit. One of the animals died in fourteen days, another was killed after six weeks, and the rabbit died in about three months. In all three cases tubercles were found and clear evidence of the bacilli was obtained. The conclusion arrived at is, that though no tubercular lesions were to be found in the organs of the fœtus, the latter were capable of infecting animals, and, in all probability, had the child survived, tuberculosis would have very soon developed.

Bacillus of Eclampsia.—Gerdes *(Deutsche Med. Wochensch.*, in *Brit. Med. Jour.)* announces the discovery of a short bacillus in the lungs, kidneys and liver of patients suffering from eclampsia. The bacilli were demonstrated by culture, and, by inoculation, produced in mice and rats strongly marked convulsions, followed by coma and death. These results were not produced in guinea-pigs, except intravenous injections were employed.

Bacteriology of Measles.—Several micro-organisms have been stated to be the cause of this disease, but subsequent investigations have disproved the announcements made. A late report from Berlin is to the effect that Canon and Pielicke have found in the blood, sputum and nasal discharges of affected persons, a bacillus which differs from any hitherto described. It was noticed during the entire course of the disease, and, in some cases disappeared before the rash had entirely faded.

Bacillus Diphtheriticus.—Dr. F. J. Tower, who has had a large experience with diphtheria, read before a recent meeting of the Milwaukee Medical Society *(Phila. Med. and Surg. Rep.)* a paper on the ætiology and bacteriology of the disease, in which he laid great stress on the value of the microscope as an aid to diagnosis. In every case of true diphtheria he had found the characteristic bacillus, but, in no instance, had he found such in tonsilitis. He carried with him a few cover glasses, and, between two, put a little of the tonsilar, faucial, or nasal exudate, or a particle of membrane; pressed the covers together, and then took them apart and allowed them to dry. After two or three minutes he wrapped them in paper, and, on returning home, stained in the usual way, with Grieber's or Lœffler's blue. In cases of doubt he made a boiled potato culture, taking no previous precaution as to sterilization. In five or six hours, or over night, at a temperature of about 38° C., the bacillus grows with great rapidity, exhibiting itself as a glassy film, of which a small portion may be stained and examined. The author does not agree with Osler's statement, that the poison is not given off in the breath of the patient. He had met with many cases of undoubted air infection, and had also been able to infect tubes of media with the breath of an affected patient, blown through a glass tube, bent many times, so that fluid particles could not reach the culture. Dr. Tower believes that there is only one diphtheritic organism, and that, as asserted by Roux and Yersin, the other sometimes observed is an attenuated form of the Klebs-Lœffler bacillus. This does not, however, explain what is claimed as a fact—that the true bacillus changes the alkaline reaction of the culture medium to acid, while the spurious does not.

Can there be True Diphtheria without the presence of Lœffler's Bacillus?—This question is answered in the negative by the observations of Baginsky *(Arch. f. Kinderheilk*, in *N. Y. Med. Jour.)*, which showed that in ninety-five cases of apparent diphtheria, the bacillus was only found in sixty-eight, all of which were serious, and twenty-seven fatal. Paralysis was common. In the remaining cases the illness was short, and only one child died. The conclusion is drawn that there were, in reality, two diseases, similar in symptoms, but recognizable by the microscope.

Bacteria and Carbonated Waters.—Dr. A. Mon-

tefusco has been making some investigations on the effect of carbonic acid, as existing in ærated waters, on pathogenic micro-organisms, and finds, so far, that they are unaffected by it, though saprophytic bacteria are, with few exceptions, destroyed.

Lactic Acid produced by the Cholera Bacillus.—In a paper recently read by M. Ferran, at a meeting of the French Academy of Sciences, he stated that the comma bacillus might be added to the list of those which under favorable conditions produce lactic acid. He enumerated a number of these micro-organisms, among others, *Bacillus coli communis*, which determine the lactic fermentation of milk, and stated that if a little lactose be added to an alkaline bouillon culture of the comma bacillus the production of lactic acid is very evident, but as soon as the quantity of this substance increases the bacillus is killed. He pointed out the fact that this acid has been found of use in infantile diarrhœa, which, it is asserted, is caused by Escherich's bacillus, *B. coli commune*, and thought the administration of the acid in cholera would likely prove equally efficacious. The form of lemonade was recommended, and it was suggested that morphine be also employed so that by its anexosmotic power the absorption of toxines might be retarded.

Reports of Societies.

COLLEGE OF PHYSICIANS AND SURGEONS OF ONTARIO.

ANNUAL MEETING OF THE MEDICAL COUNCIL.

(Continued from September number.)

Dr. Bray—From the very full and lucid explanation Dr. Moore has given of this clause, I think we cannot do anything else but accept his amendment; and I would support it heartily. I think the wording of some parts of it has been one of the greatest drawbacks we have had to our curriculum; and I think the plainer we have it the better for the Council.

Dr. Harris—I fully agree with Dr. Bray, and I think the thanks of the Council are due to Dr. Moore for the pains he has taken.

Dr. Geikie—Having had a good deal of experience in these matters, I would substantiate what Dr. Moore has said.

Dr. Bergin—Before the motion of Dr. Moore is put I desire to offer a few observations to the Council. I listened with very great pleasure to Dr. Miller, when proposing a motion a little while since; and I should be gratified that every member of the Council entertained the same views as regards the permanancy of our curriculum that he seems to entertain. From the day I entered the Council until to-day, I do not think that our curriculum, as a whole, has been the same any two years in succession. As a matter of fact, if we pass this resolution, as I see quite clearly it is likely to be passed, we shall be the laughing-stock of the community. We sent forth an Announcement last year, in which we planted before the world the superior acquirements of this Council, in which we took credit to ourselves for having adopted a standard of matriculation higher than even that in force in England, in which we claimed for ourselves a desire to advance the interests of the profession more than that of any other similar institution; and to-day we are found degrading the matriculation which we adopted last year, and striking from it that which almost every man in this Council who supported it, declared to be the important part of that curriculum; we all claimed if there was one thing more than another the medical students of this country should be well grounded in before they were registered, it was that they should have a thorough knowledge of science, and pass a science examination; and that examination was explained here to be that of the senior leaving examination in science. To-day we are told it is not intelligible, and yet the men who say it is not intelligible to-day are the men who supported it last year, and urged upon this Council it should be passed. To-day we are asked not to improve that matriculation examination, if it be unintelligible, as we are told, but we are asked to degrade it to the lowest possible degree; to eliminate from it that which last year we declared was all-important and all-necessary. It was in the power of these gentlemen who declare it is unintelligible, to have made it intelligible by saying it should be the honor departmental pass examination. But have they done so? No.

I do not feel inclined to impute motives to anybody, but I tell you now, I shall not cease from this moment forward to press upon this Council, and to press upon the Legislature the adoption of the measure of which my friend, the member for Ottawa, gave notice last night. I see clearly that if we are to have anything like permanancy in our curriculum we must go to the Legislature and obtain power; we must get from them the power to do what the University of Toronto does, make its curriculum a curriculum of five years, that the profession of this country and the students may know when an announcement is made, that this college makes it in good faith, and intends to carry

it out in good faith, and not to make itself a laughing-stock to the country, and fraudulently to put before the young students of this country that which they do not intend to carry out, and which upon the face of it they intend to repudiate. We have had the young men since our session last June, all over the country preparing for this science examination.

Some of the gentlemen on this Board have come here to-day with the money to pay the fees for these students who propose going up for this examination. I feel that we ought not to be put in this light before the public of this country; and I say to you that there is great warrant for a great deal that has been said as regards the manner business has been conducted in this Council; will not the men who are complaining of the conduct of this Council, who are agitating for its reconstruction, be enabled by our conduct here to-day to go to the Parliament of Ontario, and to say to our college in that Parliament that we have not kept good faith with the students of this country; that we have not kept faith with the profession of the country; and, much as I dislike to have any change made in the Constitution of this Council, I feel that there is an under-current from some quarter which is always endeavoring to undo the good work that is done by the Council; I shall endeavor to prevent that under-current in the future, if God spares me; and no matter from what quarter I can get assistance to put an end to this thing I shall get it.

Dr. Rogers—I quite agree with everything that my friend, Dr. Bergin, has said in regard to this movement by Dr. Moore, the representative of Queen's University in this Council. I will go further than that, and say it is most unfortunate at the present moment when the agitation of the profession all over Ontario is such that, as territorial representatives, we can hardly fight it; I have had to fight it in my division. I had a petition signed by members of my division to the Legislature asking them to have confidence in the Council; but I ask you in the face of the member for Queen's University, coming here and asking to take away certain portions of our matriculation, can I go back to them and say, next session, "Gentlemen, sign a petition of that character?" I tell you I will not do so. But if this matter is continued; if we cannot have a permanency in regard to the matriculation; if the matriculation is to be changed and altered, and kept low; I for one will say if this Council will not elevate it, I shall go myself to the Legislature with those that are agitating for a change, and ask for a change.

Dr. Bray—You couldn't get it.

Dr. Rogers—It may be so; but have you a right to make an attempt to lower the standard of matriculation in view of what occurred in 1891? I think I am within the bounds of strict truth when I say that one of the reasons why the doctors in the House on that occasion supported the amendment allowing the Council the power to erase the names of members of the College from the register for non-payment of dues, and I say it openly, was because you were asking for power to increase the matriculation standard, and said you were going to do so. I ask you, Mr. Chairman, as a man of education, can you say, if Dr. Moore's motion carries, that the standard has been raised from a second-class teacher's examination. I certainly say, from my knowledge of the departmental arts regulations, that such is not the case. But, if Dr. Moore had the desire to benefit the profession and make it better, would he not have asked you to change the wording to "an honor matriculation departmental examination"; and add the words "physics and chemistry," or "botany," or whatever you want added. But he wants to make it lower. I say, at this stage of the history of the medical education of Ontario, when the whole profession almost are up against us, we are making a great mistake, an especially great mistake for a school man as the representative of a university; in that respect I hope for the sake of this Council, and the school representatives in this Council, that this motion will not be carried.

Dr. Williams—I rise more particularly to repudiate some of the remarks that have been made by the last two speakers. One of those speakers has gone so far as to say that this Council has fraudulently treated the students or the public. For a member of this Council to say that, is something wholly unjustifiable.

Dr. Bergin—I repeat that to make such an amendment as this is, is to put a fraud upon the profession, the students, and the public, too.

Dr. Williams—I will say that for one I repudiate any such idea being put forth—that the Council have acted in any fraudulent manner whatever. The learned gentleman says that there have been amendments made every single year. I ask if there has been a member of this Council who has been more anxious to make amendments to that curriculum than that very gentleman himself? Not one.

I admit he makes them where he thinks it will improve the curriculum; but I ask whether the other members of the Council have not a right to improve the curriculum? I do not think we have a right to brand Dr. Moore with wishing to lower the curriculum; that is not the idea, he simply wishes to put it in a harmonious way with the department so that it can be satisfactory. That is his idea. I believe there are other members of this Council who are just as anxious as Dr. Bergin, or the learned gentleman from Ottawa, to have a good standard; and some just as anxious that science shall be part of that standard; but they are not willing to allow other gentlemen to move

in the matter because they can not have their own way in every particular. And to then turn around and brand this Council with not acting in good faith towards the students is wrong. I claim the Council have acted as fairly and honorably towards the students as any body of an equal number of men that can be found in this country. I admit, in all frankness, if you can get the curriculum once in a satisfactory shape and it then was made permanent for five years, as that of the University is, it would be a wise thing. But, before you can fix it in that way, you must make it harmonize with the teaching department; and that is what Dr. Moore is seeking to do—to make it in harmony with the teaching department; and then you can make it permanent. I am in favor of the science course; I believe Dr. Moore is in favor of the science course; I believe every member of the Council is in favor of the science course being added as one of the branches; but the question is, can we do it and have it satisfactory? It is a question of practice. I understood from one of the letters Dr. Moore read, it was possible for us to have physics and chemistry; if that be true, in place of Dr. Moore's motion to strike out that clause, I would prefer that physics and chemistry be inserted; and then we will get as large a part of what we want as we can; and the only feature left out will be the botany. According to our understanding, when that clause was adopted before, it was physics, chemistry and botany. And, as I take it, one of those letters said we could have physics and chemistry, and we, therefore, lose only botany, and that would come up in the latter part of the course, and the medical man wouldn't suffer so much. It strikes me Dr. Moore had better amend his motion by taking in physics and chemistry.

Dr. Geikie—I would like to say another word on this subject; last year I was strongly in favor of the retention of the clause just as it is in this, "the prescribed science course added," until I found, as Dr. Moore has described, as far as practice is concerned, that everything in botany is in the first year's examination. I am far from desiring to do away with the science course; it is simply, as Dr. Williams puts it, to harmonize matters, to make the examination intelligible; and, of course, to keep it up because everybody knows that the University Departmental Examination in Arts is a most excellent one. And as to letting the science course go, even if Dr. Moore's motion should be adopted,—I cannot speak of other institutions, but I know we include everything of it in the first year's examination,—botany, as well as the other departments.

Dr. Bergin—With regard to the intelligibility of this clause 1 of the Announcement, let me read to you what occurred when the Minister of Education was here last year (page 174), Dr. Geikie asked the Minister, "Supposing students were to take the Departmental examination which you have alluded to, embracing science, could there not be some special arrangement made, by which, in the case of every medical matriculant, in addition to the science, Latin should be compulsory?" And the answer of the Minister was, "Yes, we have done so before, and we should do it in the future, if asked to do so by this Council. You may have Latin if you want it. You would make it compulsory upon your students, and we would examine your students for you." That is, give an examination in science, and the Latin added to the ordinary examination; "you may have Latin if you want it." Then I asked the Minister, "Am I to understand the Minister to say that Latin would be compulsory in the matriculation; I would like to ask the question whether the Department would not at the instance of the Medical Council, if they requested it, make science a necessity?" The Minister said, "I think the feeling of the University has not ripened to that point yet, although the tendency is in that way. I do not think they would do it until after they change their curriculum for 1895." I said then, "the University would probably take it for their matriculation for the College of Physicians and Surgeons." And the Minister said, "The College of Physicians and Surgeons could do this; they could take the matriculation in Arts, with science for medical matriculation just the same as they have been taking the departmental examination with Latin for medical matriculation. You can have either way. We conduct the examination, and we will do anything of that kind.,'

Dr. Geikie—And we believed that, and found there was a difficulty such as Dr. Moore has described.

Dr. Campbell.—So much has been said already on this subject that I will not long occupy the attention of the committee; but it seems to me that it should be taken for granted it is the desire of every member of the Council to keep the standard up as high as we can; and it is necessary in keeping that standard up to have in mind the question of practicability to work it; it seems from the letters that have been read that there is a difficulty in making it work just exactly.

Dr. Bergin—The letter that was read here says they find it difficult to group the optional subjects; and that is not what is before the Council at all.

Dr. Campbell—If there is or if there is not a difficulty I think the matter could be got over by following the suggestions in the letter of the Deputy Minister; and then the science course will be practically fixed all right, if Dr. Moore would add to his amendment the words "Physics and Chemistry," if not included."

Moved by Dr. Moore that section one, clause

one, page twelve of the regulations be amended by striking out the following words in the fifth and sixth lines, "with the prescribed science course added and compulsory"; and the following substituted, "every one desirous of being registered as a matriculate medical student in the register of this College, except as hereinafter provided, must, on and after the 1st November, 1892, present to the Registrar of the college the official certificate of having passed the departmental matriculation examination in arts, and, in addition, if not included, physics and chemistry."

Dr. Henry—What about botany?

Dr. Bergin—That is had in another place.

Dr. Rogers—Is that "pass" or "honor" examination?

Dr. Britton—It says "departmental matriculation examination in Arts," and that always means "pass"; it is not an honor examination unless so mentioned.

Dr. Rogers—I move in amendment that the following be the words, instead of those moved by Dr. Moore "present to the Registrar of the college the official certificate of having passed the honor university departmental matriculation examination.

Dr. Williams—I would like to know what becomes of the arguments of those gentlemen who are wanting stability. Here are the very men that a few minutes ago thought the curriculum as to matriculation should not be changed. And when we merely wanted to change it to bring it into practicability and harmony with the teaching department, they now come up and ask to make radical changes. What about the want of faith with the students? I think you should vote that down without any ceremony whatever. While we have been endeavoring just to harmonize this with the teaching department they now, without notice to the students at all and without trying to keep faith with them, and just after having branded this Council for not keeping faith, these very same men come before the Council and ask them to break faith in the very way they had been charging us with doing.

Dr. Bergin—I must repudiate the language of the last speaker. He attempts to put in our mouths words that, so far as I am concerned at any rate, I did not utter; he attempts to make me responsible for an action which I have not undertaken. He says to this Council that he will support the amendment of Dr. Moore, which strikes out the science clause.

Dr. Moore—It does not not strike it out altogether.

Dr. Bergin—You have struck it out altogether.

Dr. Moore—We have not struck it out altogether. It was an optional subject.

Dr. Bergin—There was not a word about "optional subjects." Dr. Rogers shows the only way in which science can be added and harmonized with the regulations of the department; and this gentleman gets up, and with that specious sophistry, of which he is a master, says these gentlemen want to make radical changes. I am surprised he should think he could impose upon a body of learned men, such as we have here, such a specious argument as that, and hold anybody guilty of degrading the examinations; when he says we are asking to make radical changes, we propose the only change which would really harmonize this examination with the examination of the department. I will go further back than this and say, there must have been some concocting of something with somebody, to have an officer of the department, in the teeth of the pledge of the Minister given last year, to say this is unintelligible and can not be carried out.

Dr. Moore—I think that those remarks are entirely uncalled for; and I throw it back to Dr. Bergin, my old friend, that there was no undue influence, and that there was no concocting nor underhand work. I think it comes very badly from Dr. Bergin, to impute any such motive to me. So far as Dr. Rogers' remarks are concerned I think every old member of this Council will bear me out in saying that I, from almost my first taking my seat in this Council, have been endeavoring to raise the standard of matriculation examinations; and it comes with bad grace, I think, from him who has only been for two or three years in this Council, to stand up before you, and every one of you who know the facts to be different and say, I am endeavoring to drag down the standard I am only endeavoring, and have only desired to endeavor to make it intelligible. I said last night in committee that I had no desire to bring down the standard of matriculation. What I wanted and desired (and I walked up to the Deputy Minister's this morning) was to get it put into shape that we could understand it. I have laid the facts before you; and I think that those motives should not be imputed to me; and I think it comes with very bad grace from any member of the Council to impute any such motives to any other member of the Council. I think that you will bear me out, that I have, since I have been in this Council endeavored to advance the interests of medical education; and I do not consider it any disgrace, but I consider it an honor, and a high honor, to represent a great educational institution like Queen's University; and I hope that such unseemly remarks may not again be expressed.

Dr. Rogers—In reply to the pleasant remarks of my friend, Dr. Moore, I wish to say, I have no wish to impute to him unworthy motives; I simply had no alternative but to take the course he had pursued as indicative of what seemed to me an attempt to lower the standard of medical education. I will leave it to you as educational-

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ists, or to any person here, that science being an optional subject in the departmental Art matriculation, when he left it out was it not an attempt to lower the standard? If it was optional, students could take the option. As we had it the students had to take it.

For Dr. Moore to say he had no intention,—I wish to draw attention to another point; last night we, in all faith, wanted to see the Deputy Minister ourselves to talk it fairly over, and to come to a conclusion; and we decided to leave it till to-day; but instead of that he sprung it on to the meeting now; and we have been now, for an hour and a half, discussing a matter that has never been before the Committee on Education.

It is charged to me by Dr. Williams, that I wish to make changes in the curriculum; that I am not consistent. I have a motion here which I propose to move, that the words "honor university departmental matriculation," be substituted for "pass departmental matriculation, etc., added and compulsory." We all know that the honor university departmental matriculation will include science; and as it has been the wish of Dr. Williams, and so stated by him, and it has been the wish and the expressed desire of many other members of this Council to have science in the matriculation, this gives them a chance of getting science into the matriculation examination; it is true that in accordance with the views expressed by my own constituents, and I am acting and speaking for them, that I advocate raising the standard if possible; and not to lower it; and if it is possible for me to change it to an honor matriculation, I am only acting for my constituents in advocating it; and I say again, in doing that I am only keeping faith with those members of the Legislature who in giving us the power to erase a physician's name from the register for non-payment of dues, did so on the understanding that the matriculation examination should be raised very materially; and I maintain, and I have maintained, the matriculation examination of our Announcement is not much of a raise from the old second class matriculation; and in making my motion I say this will be a material advance.

Dr. Campbell—Do I understand now that Dr. Moore's amendment by the words he adds will simply leave the matriculation examination as we desired to have it last year? It would be no material change of matriculation examination from what we fixed last year; that is it will be the pass university examination, with the science course added practically.

Dr. Britton—Yes, I should think so; I should think it does not materially affect clause one on page 12, except to put it in a more tangible form.

Dr. Campbell—Botany is covered in another place I believe. It seems to me if Dr. Moore's amendment is put in the shape it is in now, we are simply making the old clause workable, and not making the standard any lower while Dr. Rogers' amendment would be raising it, and, therefore, making an alteration in our curriculum.

Dr. Fowler—Before that amendment is put I would like to know whether the honor examination is the same in all colleges. I know that Dr. Grant told me at Kingston, that our matriculation, which was established last year, was equal to what he called the senior matriculation, or the examination at the end of the first year in Arts. If that is what you mean, I am quite in favor of it.

Dr. Rogers—That is just what I mean, the honor matriculation of the department; and it is not any higher than I think, from Dr. Grant's letter to me, really is the matriculation examination of Queen's University; and he stated in a letter he recommended this very examination.

Dr. Moore—Dr. Grant recommended to me to secure the departmental matricluation examination, and I so stated last year; I am on record, and I have his letters to that effect.

Dr. Logan—Since there appears to be some doubt in reference to this question not yet settled by the highest authority, would it not be better to lay this part of the report over and consult the Minister of Education himself?

Dr. Luton—Under this proposed amendment can a student go to our ordinary collegiate institutes and receive there the necessay education to enable him to matritculate. I understand that there may be some collegiate instituties that teach botany, and others that do not. I think, therefore, it is only fair and right that the student should be able to acquire the matriculation education at the collegiate institutes, and not be oblidged to go some where else for it.

Dr. Henry— I move that the Committee rise.

On being put by the chairman the motion was lost.

Dr. Miller—I had not the honor of a seat here when the curriculum was adopted and I would ask from the chairman of the Education Committee at that time whether the amendment proposed by Dr. Moore, adding chemistry and physics is about the examination which was adopted by this committee last year.

Dr. Bray— Yes.

Dr. Bergin—I do not so understand it.

Dr. Rogers—It included botany.

Dr. Miller—Botany is taught in all the schools in the first year.

Dr. Rosebrugh—I think it is only due to us that Dr. Logan's motion should prevail, and that we should have the Minister of Education here.

Dr. Phillip—I do not see what object there would be in asking the Minister to come here to give an opinion; we have already got an official opinion from the department, and in ninety-nine cases out of one hundred the Deputy Minister gives

the opinions on these matters; and the Deputy Minister having given an official opinion from the department that is a departmental opinion, the same as if the minister had given it; and it would be only occupying the time of the Council to ask the Minister to come.

Dr. Bergin—I do not think we ought to ask the Minister to come down here. I think we have his opinion now. We have read the official report of his statement made to the Council last year. I believe at this moment that the Minister is engaged in a very important work from which he does not desire to be moved under any circumstances, or to have his mind disturbed by other matters; and I think we ought to be quite competent to settle this matter without him, having the knowledge of what he desires to do. Dr. Moore says and Dr. Bray seems to agree with him that the science course added which we asked for last year was merely physics, chemistry and botany. I am quite satisfied that this would not by any means fill the curriculum that we proposed; on the contrary—it may be that I am mistaken, as I will not say that I am correct, my impression was, that the science course was that prescribed for the senior leaving examination, with the departmental matriculation in arts. I regret more than I can express the fact that the Council, or that any portion of the Council, has seen fit to change that paragraph of the Announcement which was passed last year; but I don't desire that the Council should stay here all day in discussion over this matter, but whatever the Council may resolve to do, my resolution is in the future to obtain if I can what I cannot get today; and I shall leave no stone unturned to do that.

On Dr. Moore's motion being put it was declared carried.

On motion of Dr. Harris, the Committee arose. Dr. Fowler in the chair.

Dr. Harris moved the adoption of the report of the Committee of the Whole, as amended, seconded by Dr. Bray.

Dr. Day gave notice that at the next meeting of the Council he would move that the Rules of Order be suspended, and that the Council consider the case of Dr. Nelson Washington.

Dr. Bray moved, seconded by Dr. Ruttan, that the Council adjourn to meet again at 2 o'clock p.m., Friday, June 17th, 1892.

AFTERNOON SESSION.

Friday, June 17th, 1892, 2 o'clock p.m.

The Medical Council met, the President in the chair.

Mr. B. B. Osler, Q.C., sitting as legal assessor with the Council.

The Registrar called the roll. All present excepting Sir James Grant.

The minutes of the last meeting were read and confirmed.

Dr. Day moved, seconded by Dr. Harris, that the Rules of Order be suspended, and that this Council now take up the case of Dr. Nelson Washington. Carried.

Dr. Washington and his counsel, Mr. N. G. Bigelow, Q.C., M.P.P., on the request of the Registrar, instructed by the President, were here admitted to the room.

Dr. Day moved, seconded by Dr. Johnston, that Dr. Nelson Washington be now called on to show cause why the Council should not proceed to deal with his case. Carried.

The Registrar read the notice to show cause, addressed to Dr. Nelson Washington, and his solicitor, Mr. N. G. Bigelow, Q.C.

Mr. Bigelow—I appear for Dr. Washington. I do not know, Mr. President, in what way Dr. Washington can show cause to the adoption of the report of your Committee, unless he were to challenge the soundness of the report as based upon the evidence. I do not understand that you desire a discussion to arise here, upon the sufficiency of the evidence to support the charges.

I could also object, and I may say here, I do object, to this Council acting upon the report, for the reason that the Medical Act does not authorize the making of the code of ethics binding upon all the members of the profession; that the code of ethics is outside of the provisions of the Medical Act. I think the offence charged is not of a character which is contemplated in the statute, for which you may erase the name of a member from the roll. I take this objection because it goes to the root of the whole matter; I take it, because it is my duty to take it; I take it most respectfully, Mr. President, purely and simply because I conceive it to be the law. I do not know that it would serve any good purpose to raise a further discussion before this body to-day. I do not think that the requirements of the profession in this Province demand that the name of Dr. Washington should be erased. Possibly if he were gagged, the demands of the profession would be fully satisfied. The statute under which these proceedings are supposed to be authorized, permits the Council to erase the name of a member for grossly professional misconduct; I take that to be professional misconduct in his treatment of his patients, or in his relations to his patients; and not the fact that he has put an advertisement in the paper; nor as to the truth or falsity of what he may have stated in the paper. The object of the Council in taking this proceeding, I believe to be, as they conceive, to ensure gentlemanlike demeanor of professional men, amongst each other more especially. I understand at the

last meeting (at that time I was not counsel for Dr. Washington), a letter was put in by his then solicitor, Mr. Fullerton, submitting the form of an advertisement, and that has not been complied with; and that is the cause of the present action of the Council. If it were deemed advisable, Mr. President, I would like to have a committee of the Council named, with whom I could confer for a short time, as to whether or not it would be advisable to proceed further, or whether an arrangement could not be made by which an end should be put to this business, as far as this gentleman is concerned. I apprehend the Association is not desirous of ruining him. The life-long study and large expense gone to, necessary in preparing a man for his professional career, are very great considerations; and if it is possible to enforce the discipline of the profession without expelling him, I am quite sure it would meet with your wishes, and, perhaps, the wishes of the Council. If that could be so, I would be very glad to meet with a number of gentlemen of your Council, and see what could be done.

The President here asked Dr. Washington if he had anything to say why the Council should not proceed to deal with the case.

Mr. Bigelow—Dr. Washington is represented by me.

Mr. Osler—Are we to understand that Dr. Washington does not desire to speak.

Mr. Bigelow states that he does not.

Mr. Bigelow—As no action is taken upon my suggestion, I suppose I may understand none is intended to be taken in the view which I take.

Dr. Day—With regard to a consultation, it is a matter with the Council. I have no objection to consult, or for a committee to be appointed by the Council to consult with Mr. Bigelow and his client; but I would simply call the attention of the Council to the result of our former deliberations with Mr. Fullerton. This letter of Mr. Fullerton's shows clearly what was done; it is addressed to myself (reads letter). I may say that Mr. Fullerton and myself talked the matter over fully, and in a very friendly spirit. The action the Council took in consideration of the letter received from Dr. Nelson Washington is set out at page 136 of the Announcement 1890–91. After having had these frequent consultations, and after the letter having been written, it is for the Council to consider whether consultations with a committee would be serviceable or not. I do not wish to express an opinion in the matter. I do not wish to lay any stones in the way of arrangement of the matter in any way, but after having had these negotiations, and this letter, with the result of it, it is for the Council to say whether they wish to have further private deliberations through a committee or not.

Dr. Campbell—Perhaps, Mr. President, in view of the facts that it appears that the arrangement come to with Dr. Washington two years ago, was not successful, and that his promise was not fulfilled, the counsel for Dr. Washington will be prepared to tell us what guarantee the Council would have if we made a similar arrangement now, that it would be faithfully carried out. I ask this as a matter of information merely.

Mr. Bigelow—I do not know that this body is authorized to receive any bond, or anything of that kind; I suppose such a bond would be absolutely void, as we can give no security further than the honor of the man; I apprehend that is the position we are placed in of necessity. I am assured by Dr. Washington that he kept rigidly within the form of advertisement, until he found the Association allowed other specialists, without demur, or bringing them up, to go on advertising. I don't know that two wrongs can make a right. I am not here to reason away the letter in any sense; the letter is here and speaks for itself. Nor do I say that the excuse he gives is a satisfactory one. I do not pretend to say that; I only say it is a weakness of human nature, he being engaged in the peculiar department of the profession, and the peculiar mode of practice, that of travelling about.

There is only one further assurance that could be given; and that I apprehend would be so binding upon him that he could not evade it. That would be an undertaking on his part not to show cause in the future against his being struck off, if he violates his pledge; because it is not unknown to the gentlemen here, that, while I am not throwing it out in any other sense than an argumentative sense, this would not be the end of the proceedings; there is an ultimate resort, an ultimate appeal which can be taken; but if he gives his undertaking not to resort to that, and, if he violates again, to leave himself entirely in the hands of the Council; I apprehend his undertaking to waive all rights of appeal would be binding upon him, and would be the strongest possible obligation that could be given by a professional man.

At the request of the Council, Dr. Washington and Mr. Bigelow retires, to enable the Council to consult as to the step that they shall take in this matter.

After consultation with Mr. Osler, Dr. Bergin moved, seconded by Dr. Orr, resolved, that no further conference be had with Dr. Washington, or with his representative, on the subject now before the Council. Carried unanimously.

Dr. Williams—I would suggest, if it is not considered objectionable by our solicitor, that the yeas and nays be taken on this question so as to make a correct record.

The Registrar then took the yeas and nays as follows:

Yeas—Doctors Bergin, Bray, Briton, Campbell, Day, Fenwick, Fowler, Fulton, Henderson, Henry, Logan, Luton, Miller, Orr, Philip, Rogers, Rosebrugh, Ruttan, Vernon, Williams—Doctors Geikie, Sir James Grant, Harris, Johnson, Moore and Thorburn, not being present in the room at the time the vote was taken.

Dr. Williams—It has been suggested you should ask for the nays.

The President—All present voted yea.

On instructions from the President, the Registrar called Dr. Washington and Mr. Bigelow, who re-entered the room.

The President—Dr. Washington, I have been instructed by the Council to read to you the following resolution, which was carried unanimously by the meeting: Moved by Dr. Bergin, seconded by Dr. Orr, and resolved, that no further conference be had with Dr. Washington or with his representative on the subject now before the Council.

Dr. Day—That is, the subject of having further conference. Of course, Dr. Washington still has the right to remain here and show cause why he should not be stricken off our roll.

Mr. Osler—After what was done on the report of the Discipline Committee which has come to the knowledge of the Council, they feel they cannot take any further undertaking from Dr. Washington.

Mr. Bigelow—Then I understand the action to mean that we must try ultimate conclusions of the law. I suppose that is what it means.

Mr. Osler—As we may advise.

By Mr. Bigelow—I certainly will not try conclusions with this Council on that subject after that resolution. There is no proposed action of the Council yet, I understand, so that I have nothing to show cause to.

Mr. Osler—They have not yet acted. They are in a show cause condition.

Mr. Bigelow—No. There is no resolution of the Council against which I can move.

Dr. Day moved, seconded by Dr. Moore, that:

Whereas the Committee on Discipline reported to the Council in the case of Nelson Washington, M.D., as appears in the printed report of the proceedings of the Council for the year 1890, at pages 136 and 137, and as appears by the report in the case on file in possession of the Registrar;

And whereas the said Nelson Washington has been called upon to show cause why the Council should not act upon the report of the said committee, as appears by the notice served upon him;

And whereas the said Nelson Washington, M.D., has appeared upon the said notice in person, and by counsel, N. G. Biglow, Q.C., M.P.P., and the Council has been addressed by the said counsel for Nelson Washington, M.D., showing cause to the said notice;

And whereas the offences charged and reported as proved by the said committee are not within the premises contained in sub-section 2 of section 34 of the Ontario Medical Act as amended;

And whereas as to the said facts stated in the report of the said Committee on Discipline, the Council now resolve to act, and hereby adopt the said facts and report as to the finding of the facts in the case of the said Nelson Washington, M.D.; be it therefore

Resolved—That upon the applications herein, a d upon the enquiry herein before the said Discipline Committee, and upon the report of the said committee, and upon the facts herein found and adopted by the Council,

That the name of Nelson Washington now appearing in the register of the College of Physicians and Surgeons of Ontario, is hereby erased from the said register.

That the Registrar is hereby instructed to amend and alter the said register according.

Carried unanimously.

Fife Fowler, *Pres.*

Mr. Bigelow—I have only one or two observations to make in respect of the proceedings now taken. I object that the offences, if any, disclosed in the proceedings in the matter of Nelson Washington, Doctor of Medicine, are *ultra vires* of the Medical Council; that the offences charged are not within the Medical Act; that the rules and code of ethics are also *ultra vires* and void; and that for the alleged offence this Council has no power to erase the name of Nelson Washington from the register.

Mr. Osler—The Council have not discussed, or voted on, the motion.

The President here put the motion, and declared it carried unanimously.

Mr. Bigelow—Under the section which provides for supplying to the accused a copy of all the proceedings from the beginning down to the finding certified to by the Registrar, I now make application for those papers. Mr. President, will you kindly supply those forthwith.

Dr. Rogers moved that the order of the day be resumed, seconded by Dr. Moore. Carried.

Motions.

Dr. Miller moved, seconded by Dr. Moore, and resolved, that the Finance Committee be requested to furnish a return, showing:

First—The cost up to June 14th, 1892, of the site and building known as the Medical Registration Office, etc.

Second—The amount paid up to June 14th, 1892, on account of said site and building.

Third—The amount of the indebtedness standing against the said site and building on June 14th,

1892, specifying the amount due on account of principal, and the amount due on account of interest.

Fourth—The amount of revenue which has been received from rent from year to year.

Fifth—The estimated amount of revenue provided all the offices in the building were rented. Carried.

Dr. Rosebrugh presented the report of the Committee on Registration as follows:

The Registration Committee beg to submit the following report:

That in reference to Dr. Elliot asking to be registered with the general profession,

Your committee recommend that Dr. Elliot be informed that he must comply with the Act, viz., by appearing before the examiners.

In reference to the petition of Jacob Zelinski, again asking to be registered,

Your committee, after hearing his solicitor in his behalf, find that he has not furnished any proof of having complied with the Medical Act, and, therefore, recommend that his application be refused.

In reference to the advisability of the Council establishing a code of ethics, with the view of requiring all students to subscribe to the same on being registered,

Your committee, after having obtained the advice of the solicitor thereon, are of the opinion that it is not advisable for the Council to establish a code of ethics at the present time.

All of which is respectfully submitted.

J. M. ROSEBRUGH, *Chairman.*

Dr. Rosebrugh moved, seconded by Dr. Rogers, that the report be received. Carried.

Dr. Rosebrugh moved, seconded by Dr. Orr, that the report be adopted. Carried.

On motion of Dr. Rosebrugh, seconded by Dr. Philip, the Council adjourned to meet at eight o'clock, p.m., Friday the 17th of June, 1892.

Evening Session, Friday, June 17th, 1892.

The Council met at eight o'clock. The President, Dr. Fowler, in the chair, called the Council to order.

The Roll was called by the Registrar; all present, excepting Sir James Grant.

Minutes of the previous meeting were read and On Motion confirmed.

NOTICES OF MOTION.

No. 1. Dr. Ruttan—*Re* the Property Committee.

No. 2. Dr. Bergin—That the Legislature be asked to amend the first paragraph of Section 6 of the Medical Act by adding the following words thereto, "That such members shall be elected by graduates of the said Colleges and Bodies duly registered under the Act, and shall be elected by ballot in the same manner as is provided for the election of members resident in the Territorial Division."

MOTIONS.

Dr. Rogers moved, seconded by Dr. Bergin, that in the opinion of the Council of the College of Physicians and Surgeons of Ontario, the Act known as "The Ontario Medical Act" should be amended by the Legislative Assembly of this Province as follows:

1. That sub-section "firstly" of section 6 of the said Act and clause "firstly" of the "Act to amend the Ontario Medical Act of 1887," be repealed, and the following substituted therefor:

Firstly.—One member to be elected in the manner hereinafter described by and from amongst the medical graduates of each of the universities and colleges hereinafter designated, to wit: The University of Toronto, Queen's University and College of Kingston, the Universtiy of Victoria College, the University of Trinity College, the Ottawa University, the Western University, Regiopolis College, and of every other university in the Province now by law authorized or which may be hereafter authorized to grant the degree of doctor of medicine, and which establishes and maintains to the satisfaction of the College of Physicians and Surgeons a Medical Faculty in connection therewith.

2. That sub-section 2 of "firstly" be amended by inserting after the word "lecturer" in the first line thereof the words "examiner or paid officer."

3. That a clause be added and be designated as sub-section 4 of "firstly" as follows:

(4) The members to be elected as aforesaid shall be residents of this Province, and any person who is a medical graduate of more than one of the universities or colleges designated shall only have the right to vote as a graduate of one, and the manner of holding such election shall, with respect to the time thereof and the taking the votes therefor, be determined by a by-law to be passed by the Council, and in default of such by-law being made, then the Lieutenant-Governor shall prescribe the time and manner of holding such election.

4. That section 7 be repealed and the following substituted therefor:

Section VII.—The members of the Council shall be elected for a period of five years, but any member may resign his appointment at any time by letter addressed to the President or Registrar of the Council; and upon the death or resignation of any member of the Council, whether Territorial or Collegiate, the Registrar shall forthwith cause a new election to be held in such manner as may be provided for by by-law of the Council; and such election shall be conducted in accordance with the by-laws and regulations of the Council, but it

shall be lawful for the Council during such vacancy to exercise the powers hereinafter mentioned.

5. That Section XI of the said Act be amended by substitnting for the words, "together with the members to be appointed by the general colleges and bodies as mentioned in Section VI. of this Act," the following: "Together with the members to be elected by the medical graduates of the several universities and colleges mentioned in Section VI. of this Act."

That Section XXIX be amended by substituting "seven" for "five" in the eighth line thereof.

Motion referred to Committee on Legislation.

REPORTS OF STANDING AND SUB-COMMITTEES.

Dr. Day presented report on behalf of Committee on Rules and Regulations.

GENTLEMEN,—Your Committee on Rules and Regulations beg leave to report that they met and organized on the 15th inst., electing Dr. Henry W. Day, Chairman, and Dr. Luton, Secretary.

A communication from the Ontario Medical Association was referred to us, embracing a resolution passed by that body requiring that fuller reports of the Council proceedings be furnished to the profession. With this request we are fully in accord, and are glad that the Council, by its action in employing a stenographer, has already anticipated that request.

The second part of the communication contains a unanimous endorsation of the legislation obtained by this Council, and the action taken thereon, and we would suggest that a suitable reply be sent by the Registrar.

We have, also, had placed before us, a letter of thanks from the Ontario Medical Association for the use of a portion of this building for their annual meeting in 1891.

We have had referred to us for consideration, a tariff of fees adopted by the Simcoe District Medical Association, and beg to say that the territorial limits of this Association are but a portion of the Saugeen and Brock Electoral Division, a tariff of fees for which has also been placed before us.

Inasmuch as there is no wide difference between the two tariffs, and as the latter covers the territory embraced in the former, and as Dr. Henry, the Territorial Representative for Saugeen and Brock, assures us that the confirming of the latter by this Council will be perfectly satisfactory to the members of the Simcoe District Medical Association, and to promote uniformity in the tariff over a large and important Electoral Division, we would recommend that the tariff of fees as approved and presented of the Saugeen and Brock Division be certified and confirmed by this Council and thus made legal.

At a meeting of your committee held on the 17th inst., we had for consideration a tariff of fees of the City of Hamilton, a part of the Burlington and Home Division. We find the same reasonable, and recommend that it be passed and legalized by the Council.

All of which is respectfully submitted.

HENRY W. DAY, *Chairman.*

Dr. Bray moved, seconded by Dr. Day, that the report be received.

Dr. Day moved, seconded by Dr. Bray, that the report be referred to the Committee of the Whole. and that the Council now go into Committee of the Whole on this report. Carried.

The Council then resolved itself into Committee of the whole, Dr. Day in the chair, and the petition was read clause by clause and passed, and on motion the Committee arose.

Dr. Day moved, seconded by Dr. Bray, that the report of the Committee of the Whole on the report of the Committee on Rules and Regulations be received and adopted. Carried.

Dr. Johnston presented the report of the Printing Committee.

GENTLEMEN,—Your Committee on Printing beg leave to report that they met and organized, and find that the printing of the annual Announcement, etc., will require to be placed under the supervision of the Chairman and Registrar, tenders to be asked for as usual.

All of which is respectfully submitted.

ARTHUR JUKES JOHNSON, *Chairman.*

Dr. Bray moved, seconded by Dr. Johnston, that the report be received and adopted. Carried.

Dr. Philip presented the report of the Finance Committee as follows:

GENTLEMEN,—Your Committee on Finance beg leave to submit the following report, viz.:

We have carefully examined the books of the Treasurer, compared them with the vouchers, and find them to be correct.

The books of the Registrar have also been examined and compared with the Treasurer's and also found correct.

Our revenue this year, especially from the increase in the payment of the annual assessment, has been greater than usual, thereby enabling the Council to pay off certain floating liabilities which have been hampering the financial resources of the Council for years past.

Owing to certain changes proposed to be made in the method of conducting the examinations, we hope this year to be able to make a very considerable reduction in that department in future.

The balance to the credit of the Council in the Imperial Bank of Canada at present is $371.47.

The following accounts certified, we recommend to be paid, viz.:

The Boiler Inspection & Insurance Co., one year's insurance	$20 00
For insurance on elevator in Citizens' Insurance Co.	50 00
McDougall & Robertson, St. Thomas, for legal services	17 00
Expenses W. Webb for travelling, etc., in the case of appeal of Howard made by J. W. White for violation of the Medical Act	29 15
For advertisement (*Canada Lancet*)	5 00
Expenses in conducting prosecution	10 00
Expenses in repairing building	11 91
Dr. Fife Fowler as Deputy Registrar at the examinations held in Kingston in 1892	40 00
Total	$183 06

That the applications of J. W. White, M. A. Shaw, E. T. Barber, for rebate of fees cannot be recommended.

That the applications of W. G. Bryson, W. J. Hunter, M. J. Brown, Samuel H. Fee, and H. L. Cook for exemption from assessment cannot be entertained.

With reference to the motion of Dr. Miller, in which he asks for a return of the expenditure of the year up to June, 1892, and the estimated expenditure up to June, 1893, the information so far as your committee can furnish it can be obtained from the returns laid on the table by our Treasurer.

Your committee have carefully considered the report of your prosecutor, W. Webb, and particularly the last section, in which he intimates that if you wish his services it must be with material increase of salary.

We believe that if prosecutions are vigorously carried on, the number must decrease from year to year, and the income to the prosecutor from that source would gradually lessen. We are therefore of the opinion that it will be advisable to employ some person in the capacity of prosecutor who is not wholly dependent upon it for a living, but who can give his services to the work when required, and as may be directed by members of the Council.

We have therefore to recommend that you employ some person in that position.

Your committee have had before them the proposition of the *Ontario Medical Journal* Publishing Co., in which they propose to have prepared and published stenographic reports of all Council proceedings, do the advertising required by the Council, and other matter, and furnish free to each of the College of Physicians and Surgeons of Ontario a copy of a journal which shall be fully equal in every respect to the medical journals now published in Toronto, for which services they ask the sum of $1,500 per annum.

Your committee are satisfied this would fill a great want that has long been felt by the Council in bringing them in touch with the profession, by giving and making accessible all information on matters coming within the purview of the Council.

We find that this proposition would save to the Council for stenographic reports and other matters that would come under their offer, about $150.

While your committee is satisfied that the arrangement would be advantageous to the Council and the profession, we fear the cost might be beyond what we might safely expend in that direction.

We beg to submit the following abstract of our assets and liabilities, viz.:

ASSETS.

Building and site	$100,000 00
Assessment dues	4,500 00
Cash in Bank	371 47
	$104,871 47

LIABILITIES.

Mortgage on Building	$60,000 00
Accounts passed	183 06
Note in Bank under discount	1,000 00
Estimated expenses of session for 1892	2,200 00
Balance	41,488 41
	$104,871 47

We have reason to think that upon the completion of the new city and county buildings the remaining offices and rooms unoccupied will be readily rented, and the income from this source may in future enable the Council to dispense with the annual assessment.

We advise that the detailed statement printed by order of the Council, showing a tabulated statement from 1866 to the present time, of the receipts and expenses of the Council, be sent to every registered practitioner in the Province for their information.

Your committee believe that if the same care and prudence which has chacterized the financial transactions of the Council hitherto, is shown in the future, that the financial outlook will be one of great promise.

We append to this report that of the Treasurer, also giving in detail the expenditure of the Council during the year.

All of which is respectfully submitted.

D. Leslie Philip,
Chairman Committee on Finance.

Gentlemen,—Your Treasurer herein submits a statement of the receipts and disbursements for the fiscal year just closed:

1891. RECEIPTS.

June 10.—To balance as audited		$732 13
	Registration fees	3,347 00
	Assessment dues	5,124 22
	Fees for professional examination (April)	9,525 00
	Fines from illegal practitioners	1,251 40
	Building, rents from offices	4,097 34
	Council meeting, refund	1 20
	Temporary loans from bank	32,786 00
	Total	$56,864 29

DISBURSEMENTS.

Election expenses		$ 49 00
Council meeting expenses		2,243 50
Discipline committee		367 99
Legislation committee		317 30
Curriculum committee		287 45
Registrar's salary		1,800 00
Treasurer's salary		400 00
Prosecutor's salary		600 00
Professional examination expenses		2,289 54
Fees refunded candidates		110 00
Permanent apparatus for examinations		5 00
Fines to prosecutor		1,228 60
Registrar's office supplies and expenses		683 03
Treasurer's office supplies and expenses		29 55
Printing		610 00
Legal services prosecuting illegal practioners.		180 47
" collecting annual dues		319 34
" general account		155 62
New Building Maintenance:		
Caretaker Wasson	$520 00	
Elevator man	260 00	
Commission on rents	207 80	
Fuel	636 75	
Water	416 80	
Gas	171 57	
Insurance	72 50	
Taxes	1,738 03	
Repairs, supplies, etc.	414 62	
Legal services	71 96	
		$4,510 03
Interest		3,534 85
Temporary loans		36,771 55
Balance		371 46
Total		$56,864 29

I may say that at present we are indebted to the bank in sum of $1,000.

Respectfully submitted,

W. T. Aikins, *Treasurer.*

Dr. Philip moved, seconded by Dr. Bray, that the Council go into Committee of the Whole on this report. Carried.

Dr. Philip moved, seconded by Dr. Bray, that the report of the Finance Committe be received.

Dr. Fenwick in the chair. Report read clause by clause.

Dr. Thorburn during the reading of the report asked information as to the $50 for insurance on the elevator for the year. The Registrar stated that the insurance was not against injury to the elevator, but in the event of anybody being injured by it.

Dr. Moore, *re* the proposition of the Ontario Medical Journal Publishing Company, said, before that clause is put I beg leave to move that the words "$1500" be struck out, and the words $600 be inserted; and I recommend that this offer be accepted at that sum. I believe it is in the interests of the profession that we should have a journal reaching every member of the profession. I believe that it is the only way, the only true way, the only real way that we can reach our constituents. I believe if we had a journal of this nature it would be in the interests of the Council, and in the interests of the profession; and we would be able thereby to put our views fully and clearly before our constituents. If we had a journal of this kind, we could meet, and meet very satisfactorily, the charges made by some of the medical profession of this country against this Council. It is true now that we have no means whatever by which we can reach every member of the profession. We cannot reach them by the daily press. We cannot reach them by the medical journals now in existence, because the medical journals do not reach every medical man, because every medical man does not take those journals. But if this Council expends the sum of $600, and sends the medical journal free to every medical practitioner in this country, I certainly think they cannot complain of the little fee of $2, when they are getting a journal which, according to this prospectus, agrees and guarantees to be equal to any three dollar journal in the province. They will have a journal free for $2; they will be able to understand twelve times a year just what is going on in the medical profession; they will have access, according to the prospectus, to this journal at all times and under all circumstances, and it will be, as I understand it, the organ of the profession. I think it is probably the best $600 we could expend. Besides that, if I remember to have read correctly, they agree to do our printing; I think our printing costs us nearly the sum of $600 already, and if they do the printing, we are actually getting the journal for the profession almost for nothing. If the company accepts this proposition, I think it is a most generous offer upon their part. I don't know that they will accept it, but I will fix the sum at $600, because of the straightened circumstance of this Council; therefore I have much pleasure in moving that the words "$1500" be stricken out, and the words "$600" be inserted; and I recommend that offer to be then accepted.

Dr. Geikie—Might I ask anybody who knows, perhaps the chairman of the Finance Committee, whether their offer was not $1500? There is a great deal in what Dr. Moore says; but there is a great deal of difference between $600 and $1500. They say we will do so and so for $1500, while we say, you are very good, and we will give you $600. It seems so much below their offer as to be hardly worth considering.

Dr. Rosebrugh—Let us have a little more light on the question of printing. Is it stated they will do our printing? What do they mean by that? Do they mean the printing of our Announcement, or only any advertisements?

At the request of Dr. Williams, the Registrar reads the proposition of the Ontario Medical Journal Publishing Company as follows:

TORONTO, JUNE 10th, 1892.

To the President and Members of the Ontario Medical Council:

GENTLEMEN,—We believe it would be to the advantage of the Medical Profession throughout the Province, as well as the Council of the College of Physicians and Surgeons, that all transaction of business or otherwise of the College should be published and given to the general profession; that a full stenographic report of the proceedings of the Council should be placed in the hands of every practitioner; that a full report should be given of all territorial meetings, and we make for the *Ontario Medical Journal*, the first copy of which will be issued on or about the 1st of July, 1892, the following offer. The above company will, in consideration of a grant of $1,500 per annum from the Council, agree to do as follows, viz.:

1. Supply *Ontario Medical Journal* free to every registered medical practitioner in the Province, and, also, to every registered medical student attending college.

2. Will give a full stenographic report of all proceedings of the Ontario Medical Council, and furnish a bound Hansard copy of the proceedings of the Council to each member; report proceedings of all territorial meetings; publish all advertisements of the Council free; secure original articles from prominent members of the College on Council matters, and in every way publish a first-class journal, the columns of which shall at all times be open to the medical profession for the discussion of Council and other matters.

3. The grant to be made yearly at the discretion of the Council.

We remain,

Yours very truly,

THE "ONTARIO MEDICAL JOURNAL" PUB. CO. (LTD.),

Per W. BEATTIE NESBITT.

Dr. Ruttan—How often is the journal to be issued?

Dr. Bray—Monthly.

Dr. Campbell—I notice in the tabulated statement of expenditure of last year, that the Council paid over $600 for its printing. The great proportion of this was, no doubt, expended in printing an Announcement which contained the proceedings of the Council.

If by bonusing this proposed journal to the extent of $600, we get the printed report of our proceedings and our Announcement, and the publication of our advertisements, we certainly will be only expending a trifle, possibly $100 or so, for extra printing that we have to do, which would be the printing of letter heads and envelopes; and that is really all the printing I suppose we have, except the Register.

Dr. Geikie—The Company do not say they will print the Announcement.

Dr. Campbell—No. But I say if they are prepared to accept the proposition to print a report of our proceedings and our College Announcement and all the advertisements, and send a copy of the publication to every registered practitioner, it seems to me it would be a very small amount expended by this Council over and above what we do expend now. I do not know that this company would be willing to accept an offer of that kind. I am quite satisfied the Council cannot accept their proposition, for we are not in a position to bonus them to the extent of $1,500; but if they are willing to accept the proposition involved in Dr. Moore's motion, to do this work for $600, the Council will be expending but a mere trifle over and above what they expend now; and we will gain the other advantages of which Dr. Moore has spoken. My own impression is that it could be done, for the simple reason that a paper of that kind would draw a large revenue from advertisements; the fact that their journal would go to 2000 physicians in the Province of Ontario would give them a very extensive advertising patronage; from that they would draw quite a revenue; from subscriptions they would draw no revenue except what they might get outside of the Province, (of course they would get a few subscribers) but they would get very large revenues from advertising, because it would be the best advertising medium in the countty. I do not know anything about the promoters of the corporation, or what their notions of these things are, but so far as the proposition of Dr. Moore is concerneed, it strikes me that there would be no harm in passing it; and if this company are willing to accept it I think the Council will be doing a very good thing.

Dr. Philip—Before a matter involving the expenditure of that amount of money is voted upon by the Council, I would wish to say that in the Finance Committee we simply took their proposition to submit it to the Council without recommending anything, but I think it would be well if we are going into a comparatively large undertaking of this kind to have somebody hold a conversation with the promoters, in order to understand exactly what they are going to do. What they state is a little indefinite. Once their duties are defined and they enter into a written agreement promising to do certain things with the Council, as Dr. Campbell has said, there are certain good features in connection with it which commend it to my mind; but I certainly would not like to undertake a grant of this nature, and to the extent of $600, without having their duties defined, not only by a circular of this kind, but in

writing, so that they will be bound by contract to the Council to carry out what they promise to do.

Dr. Bergin—I beg to ask whether these gentlemen, or this company, propose to guarantee in any way that they will carry out the arrangement if it be made with the Council? Do they expect any portion of this money to be paid before the expiration of the year? Am I to understand from what you have read just now, it is to be paid at the discretion of the Council, means that as an evidence of good faith this $600 that they accept shall not be paid until the expiry of the year?

Dr. Bray moves that this portion of the report be laid over till that information can be got, till to-morrow morning.

Dr. Campbell—I don't think there is any necessity to refer it over, I will submit a resolution, which, perhaps, will meet Dr. Moore's ideas; it is to amend that clause by adding thereto "That in the event of the Ontario Medical Journal Publishing Company printing a stenographic report of the Council proceedings, the College Announcement and all the College advertisements, and supplying a copy of the Journal free to every registered practitioner, the Council will give the company a bonus of $600; the money to be paid in monthly instalments after the publication of each issue of the journal."

Of course it should be left with no executive committee to make a formal arrangement with the company, provided they accepted this offer, based on these terms.

Dr. Williams—I do not see any harm in passing this resolution to-night; It is a question whether they will accept it. If you say by that report, what you would be willing to do, then we would be in a position to have a conference with this company, and see whether or not they would be willing to accept what you propose; if they agree to that acceptance, then would be time to enter into details, and have some writing prepared to make the matter absolutely secure.

Passing a vote or resolution, or amendment to that report to-night will simply be an expression of opinion of the Council as to what they would be willing to do, and which could be afterwards completed, providing the company were willing to accept your offer.

Dr. Geikie—Might I suggest all other college printing, meaning the questions and the like.

Dr. Bergin—Their proposition says "Grant to be made yearly in the discretion of the Council."

Dr. Williams—I should suppose that it meant to be continued one, two, or three years

Dr. Campbell—I think if you did a thing of that kind it would be only fair to pay them the money monthly, after each issue of the journal; then if they break down our money would stop.

Dr. Rogers—I quite agree with what the chairman of the Finance Committee says that in view of all charges that have been levelled at this Council on the question of extravagance, we had better be a little slow in incurring new liabilities and expending money. I quite agree with all Dr. Campbell has said, if they could get an arrangement of that kind, it would be very good; but at the present moment I think we should keep from the appearance of being extravagent; and to endow a journal of this kind would be taken by our opponents as more evidence of the extravagance of the Council. I think it is putting another weapon in their hands for this year.

Dr. Johnston—One of the chief arguments brought by Dr. Meacham, and some of his followers at the Local House this last spring, was that there was no journal which was the mouthpiece of the Medical Council. It was upon that point that they distinguished the yearly liscense of the profession from the yearly liscence of hucksters; it was on that that they distinguished it from the yearly liscense that the lawyers receive. As they said, the lawyers receive with their yearly license, and for which they pay some $17, a journal; and that if this Medical Council had the journal for which they might reasonably be asked to pay a yearly fee, they would not object to pay that fee of $2; but that there was no journal, and that they were paying for nothing. I am sorry to say I know very little about this journal; I have no interest either financial or otherwise, in it; but I think if some arrangment of this kind could be carried out, this journal would be a medium through which the profession could all ventilate their views; and I think it would lead to the better understanding of the average country practitioner, of what the Council has being doing, and what efforts they are making from time to time to meet the wishes of the profession. I think that a great deal of this misunderstanding which has been spoken of before is the result simply, if not totally, of the fact that in the outlying districts of Ontario, the profession do not know what we do, or how we do it. It is with that object also, I hoped this year the stenographic report of this meeting would give them a better idea. I think if something of that kind was done, and now we have the means of doing it, there would be a general unity in the profession.

Dr. Bergin—They could not say this was a star chamber then.

Dr. Thorburn—We should be very careful before taking a venture of this kind. If we do this the present journals would become inimical to us.

Dr. Johnston—They are now.

Dr. Thornburn—They do not give us that attention that they might; and there is something to be said in favor of it in that the British Medical Association have their medical journal; it is the authorized journal of the association. We might

in the future consider this matter, but with the present feeling of the profession that we are an extravagant body, we should go slow. Then, too, there is nothing definite in this proposition; before anything could be passed I think we should have a positive declaration from this company, explaining what they will do, and what they will not do. I think Dr. Geikie's suggestion about the printed questions is a very important one, for students; and we ought to know positively from them what they propose doing, and we should have a written agreement before we can vote any sum of money for it.

The chairman, Dr. Fenwick—I myself, think $600 is a very small amount; and I think these questions for examinations should not be printed in a public printing establishment, because the students might get hold of them.

Dr. Henry—I support the remarks and motion of Dr. Moore, to give $600 to the journal. Owing to the intense feeling that exists between the Council and the profession in the country, I think it would be very well spent money; the profession will only be getting a portion of their money back when they get their journal; and I do not see that any medical man or number of medical men would object to it.

Dr. Campbell's amendment was put by the chairman and declared carried.

Dr. Phillip—Referring to the clause *re* the position of prosecutor for the Council said, Mr. Webb, during the last year, at any rate, received from the College a salary of $600, and also the fines and convictions. These fines amounted last year, to about $1,200, but the expenses were very nearly equal to the convictions and fines, and Mr. Webb made a request towards the latter part of May, for an increase of salary, saying that if we did not increase his salary we should have to look somewhere else for someone to fill the position, or something to that effect. We feel that as the years go by these prosecutions are gradually ceasing; they are becoming far less frequent than they were in the past; and we think they are likely to be still less in the future; so that it struck the members of the committee, that if they could find some good man who would do the work with a lesser salary, and who probably might employ some portion of his time, not occupied in prosecution, at some other work, that this additional expense might be saved to the Council and the work might be done as well as it has been done, during the last year at any rate. If we could find such a man in Toronto, who would be under the call of the members of the Medical Council, outside of Toronto or anywhere, it might be found necessary to call him, it would be serving a very good purpose. We propose not to give him as large a salary as Mr. Webb had; I do not know that I could name any salary just now; it was mentioned among some members of the Council, that we might get a man for $400.

Dr. Bergin—I think that would be a very wholesome change.

Dr. Henry—My experience is, it is frequently very difficult to get the prosecutor to look after the cases at a distance; I have felt, not only now, but in the past, that the country the prosecutor had to cover was too great; and we ought to have four men to cover it. If you get a man in the city and give him $400, it would be impossible for him to live on that, and attend to the duties required over the territory. I think if we are going to change the mode of prosecuting delinquents through the Province it would be better to go back to the old state of affairs and let every territory have two or three first-class constables to look after them. I must confess here, that the late prosecutor has done good work; he has chased all the delinquents out of my territory; but I think the work is really too much for one man to do in the first place; and to my mind it is preposterous to think you can get a man to do it for $400 a year.

Dr. Bray—In reply to what Dr. Henry has said about having two or three men in each county, I wish to say that we tried that. I don't know that we had two or three, but we had men; and it was perfectly useless. And, further, if you have four prosecutors I don't know where you are going to get the money to pay them.

Dr. Henry—They pay themselves.

Dr. Bray—If you get four good men to take it for what they get, I am perfectly willing they should have it, but I would want them to give some guarantee that they would do the work efficiently. There is not enough work to pay the men. The late prosecutor complains that he did not get enough, and as the Registrar informs us, the receipts from fines are $1,200; and if the total receipts from fines for a man who is giving his whole attention to it, is only $1,200, how can you expect to have three or four men and give them no more than that? I quite agree with the recommendation of the Finance Committee; and I think there will be no difficulty at all in getting a man who will attend to that duty just as well, perhaps, as it has been attended to, and for a great deal less money.

Dr. Williams—There is a slight mistake, I think, in stating the amount received by the prosecutor for this last year from fines. Part of that $1,200 to which you refer, was back payments from previous years; really the receipts from this last year were something about $900, or $950; and, according to Mr. Webb's statement, it required all that amount to pay travelling expenses and other expenses which he had to pay; and all that he had left was the salary that the Council granted him direct, say $600. The proposition, as I understood

it, made by the chairman of the committee, is, that if a prosecutor could be got in a central position, who could occupy a part of his time at something else, and only go out when he was required for certain purposes, and when that purpose could be intimated to him, on communication from the Registrar, or whatever way the members of the Council might see fit, he could do his work in such a way that his expenses would be met by what was made out of the fines, and the amount granted him by the Council, whatever that might be, would be his compensation for the time that he devoted to the work. That seems a reasonable proposition, and a person in that way could certainly do it for less money than one who had to give his entire time to it. I have no doubt the members of the Council would be very sorry to part with the prosecutor they had before, perhaps, as it was stated by a number of gentlemen that he did his work efficiently in their division; but he claims that he cannot do the work for the amount that he was given, and that he requires an increase; and the Council are not in a position to make that increase; therefore, the Council seem obliged to adopt some other course by which they will be still protected to the same extent, or have their prosecutions carried on, and yet they will not be burdened to any larger extent than they were before, however sorry they might be to part with Mr. Webb.

Dr. Miller—Does the college not sometimes have to pay the costs in cases in which the prosecution fails?

The Registrar—The rule has been, where prosecution failed, and where there was an appeal, the Council would have to fight the appeal, and would have the costs to pay if the conviction was not sustained. There is included in the expenditure for that the sum of $20. The Council was obliged to pay that.

Dr. Rogers—This is an important matter to the territorial representativcs. We have a territory, and when men come in there that are not registered, it creates quite a disturbance among our constituents. If you could possibly get for a prosecutor a man who had many of the good qualities of our present prosecutor, and without some of his faults, at the rate of $600 a year, and he got all the fines, then all the money the College has to pay is $600, plus a few dollars they had to pay on appeals last year. I would like to move, if we get a prosecutor, that we could recommend, to employ him at the same rate; you will not get prosecutions by having a man who would be following some other employment; he won't leave his employment; the territory is too large, and he won't have enough to do.

Dr. Philip—In making this recommendation from the Finance Committee to the Council, I would say we have in our mind's eye a man who probably would fill the bill; the man I refer to is the one who takes care of this building; he has a most excellent record, and though he did not name any specific sum, we were satisfied he would undertake to do the work for one year at least, for less than $600. He is a man who has something else to do here. Speaking of his qualifications, he has been in the Pinkerton detective force; he has got letters from several other bureaus and departments, showing he is a skilled man in that kind of work. As Mr. Webb had decided, according to the statement he made us, that he would not take it unless we increased his salary this year, we had a conversation before coming into this Council to-night; Mr. Wasson wanted a little more time to think it over; still I am satisfied myself he would accept it. And I feel quite confident he would make a very good man for us; he is here at headquarters all the time. I didn't know we could get a man in the position I spoke of at the time we were considering our report. Our detective or prosecutor would be subject to the call of the Medical Council.

The old plan of appointing local constables is no good, it has never worked satisfactorily at all; but I am satisfied if we had Mr. Wasson, or a man like him, here at headquarters with the Registrar, at all times subject to the call of the members in the territorial divisions, he would be able to go to any part of the territorial divisions, and could have local agents at different points, who would put him on the track of such cases as might be necessary for him to prosecute.

On motion of Dr. Rosebrugh the committee now arose, and the chairman reported that the Finance Committee's report had been passed as amended.

Dr. Thorburn moved, seconded by Dr. Bray, that the report be adopted. Carried.

On consent of the Council, Dr. Bray gave notice of motion *re* the appointment of a public prosecutor on the lines recommended by the Finance Committee.

Moved by Dr. Harris, seconded by Dr. Philip, that leave be now granted to introduce a by-law for levying an annual assessment, and that the by-law be read a first time. Carried.

Moved by Dr. Harris, seconded by Dr. Moore, that the by-law be referred to the Committee of the Whole, and read a second time. Carried.

Dr. Fulton in the chair.

Adopted in Committee of the Whole without amendment.

Moved by Dr. Day, seconded by Dr. Philip, that the report of the Committee of the Whole be adopted. Carried.

Moved by Dr. Harris, seconded by Dr. Day, that by-law No. for levying the annual assessment be now read a third time, passed, numbered

and signed by the President, and sealed with the seal of the college. Carried.

Dr. Moore here arose to a question of privilege, and said, I find here in one of the evening papers published in this city, called "The Toronto Evening News," what purports to be a report of the proceedings of this Council, which is most totally incorrect in every particular. I find it headed, "A Close Corporation"; it states, "in a year from now, Dr. McCully, of Toronto, and Dr. Anderson, of Hamilton, may not be qualified to practice as physicians." Dr. Anderson, of Hamilton, as I understand from members of this Council, has not been prosecuted at all; and in justice to Dr. Anderson, I think we have a right to do something regarding it. In this article it goes further and says, that "Dr. McCully and Dr. Anderson, who is also accused of unprofessional advertising, be struck off the list of physicians. The matter will come up at the next meeting of the Council in June, 1893." It further goes on and states, "That over clause one of the report, there were some very hot words in discussion. Dr. Moore moved to strike out the prescribed course of science in the curriculum. Dr. Bergin said the curriculum had been changed every year, and that another change this year would make it a laughing stock in the community. He said there was an undercurrent through the Council to lower the standard, and accused Dr. Moore of behind back work, which the doctor resented strongly, but finally agreed to change his motion to suit the ideas of Dr. Bergin."

You know that this is incorrect. I think I can say for Dr. Bergin that he did not use those terms; and I might also say that I did not alter my motion to suit the views of Dr. Bergin, because Dr. Bergin voted against it, and was not satisfied with it. I altered my views, or exchanged my views, perhaps, believing it to be in the best interests of medical education, and not to suit Dr. Bergin's views at all. I think it is very disgraceful, indeed, to think that young men can come here who have either so little honesty or so little manhood that they will take down reports most grossly incorrect and circulate them in the public press. This article will be copied into and sent to the papers in Belleville, Kingston, Brockville, Cornwall, and all along the line; it will be found on Dr. Bergin's table and on my table to-morrow morning; and I think this young man is not only a disgrace to the position of reporter but he is a disgrace to journalism, and I think, in all fairness to this Council and to the gentlemen named, that this paper should retract at the very earliest opportunity those erroneous statements.

Dr. Bergin—I do not attach very much importance to this sort of thing myself; but I do not for one moment believe there is an undercurrent in the Council; on the contrary, I believe it is a feeling of the Council generally that the matriculation should be increased, and I know that some gentlemen who opposed our standard last year, believe now we ought to increase it, at all events, before the end of this Council, to a much higher degree than they would have increased it last year; and as for Dr. Moore doing behind back work, I made no such statement—and I don't believe it.

Dr. Philip asks to have read the statement made by the Registrar called for by a motion of a member of the Council.

Dr. Pyne reads the following statement:

Item No. 1.	Site	$13,000 00
	New building	75,046 54
	Total	$88,046 54
	Less material in old building	100 00
	Cost up to June 14th, 1892	$88,145 54
Item No. 2.	Paid on building and site up to June 14th, 1892	$28,146 54
Item No. 3.	Mortgage principal	$60,000 00
	Interest since 1st May, 1892, to 14th June, 1892	375 00
		$60,375 00
Item No. 4.	Rent for 1888-89	$ 1,853 45
	" " 1889-90	3,888 91
	" " 1890-91	4,090 72
	" " 1891-92	4,097 34
Item No. 5.	Estimated amount of revenue if all offices were rented	$ 7,150 00

"A. G. P."

(To be continued.)

Selected Articles.

PUERPERAL FEVER AND ITS TREATMENT.

This patient is twenty-five years old and has been married eight years. She has two children, the last one born six weeks ago, but has had no miscarriage. Since the birth of her last child she has been troubled with pains in the back and on the right side together with headache and fever.

This woman was delivered by a foreign midwife. A great many of the women who come to this clinic have trouble from the same source. This case gives me an opportunity to say a few words on the subject of puerperal fever.

First, as to the prevention of puerperal fever, the first important consideration for a doctor is to have a nurse under his own personal control.

Some time before delivery I procure certain articles that I need, and the most necessary one is a solution of bichloride of mercury and tartaric acid after the following formula:

℞—Hydrargyri bichloridi . . . ʒ ij.
Acidi Tartarici . . . . . ʒ x.
Aquæ . . . . . ℥ viii.

M. & S. A teaspoonful of this mixture contains two grains of bichloride of mercury and the addition of the tartaric acid renders it soluble. Then I provide iodoform and carbolic acid, and a needle and thread.

The nurse is instructed to wash the vulva of the patient with this solution and to see that the bowels are regularly moved. I make it a rule to never examine a patient without first washing the hands in a mixture of equal parts of alcohol and tincture of green soap, and next dipping them in a solution of bichloride of the strength of 1-4000. After delivery of the woman, which process I attend to myself, if the instruments or the hands have been introduced into the vagina, the uterus and vagina are washed out carefully and the nurse instructed to keep the vulva clean. The most practical method of doing that is never to use a sponge, because a sponge once infected cannot be again cleansed. I instruct her to throw, by means of a clean rubber bulb syringe, the bichloride solution into the vagina several times a day, and place gauze over the vulva, the gauze having first been squeezed out in a solution of bichloride and dried. Then if there is any odor to the discharges vaginal douches are given of bichloride solutions and afterwards 1-100 carbolic acid solution till the odor has gone. If the patient has a rise of temperature and chill the nurse is instructed to use the bichloride solution every hour in washing out the vagina. If the temperature does not fall to normal, then I wash out the uterus with a weak solution of bichloride or with a carbolic solution of the strength of 1-100 or 1-60. In washing the uterus out, I do not use a stiff glass tube, but a stiff gum catheter, No. 12, and I generally carry it up to the fundus. The connections are then made and the syringe pumped very gradually until the current passes down the vagina and out the vulva. It generally takes from fifteen to twenty minutes to clean out the uterus, and I use about a gallon of water. In a bad case of puerperal fever the first washing induces another chill and another rise of temperature. If you follow the instructions of the text books you will find that they advise the washing to be done but once in eight hours. I have proved to my own satisfaction the fallacy of this advice. The germs are not destroyed by the first nor the second washing, and they develop again in eight hours, so your washing is practically futile. I have learned from experience the value of frequent washing out of the uterus in cases of puerperal fever.

The late Dr. J. Marion Sims once attended a patient who developed puerperal fever suddenly at a hotel in this city. She was seized with a hæmorrhage one morning and was carried up stairs flooding and in pain. Dr. Sims tamponed her after the orthodox fashion, but it did not stop the hæmorrhage. She was curetted the next day and the bleeding was so profuse that the tampon was again inserted. I objected to this procedure because both tamponings were followed by a chill and fever which the second time rose to 105° F. We had now a full fledged case of puerperal fever.

I then began washing out the uterus every three hours and remained with the patient till she was cured, and she is living to-day in perfect health. The mistake I made was in not washing out the uterus every hour. I once washed out the uterus of a patient who had puerperal fever every hour for twenty-four hours and at the end of that time the patient recovered. The next patient I had got well in twelve hours. When I went to Bellevue Hospital as visiting gynæcologist some years ago, the death rate of patients suffering from puerperal sepsis was four out of five cases. Nine patients with puerperal fever happened to be there, in all whom the fever had been present for twenty hours. I washed out most of these cases myself and succeeded in curing seven out of the nine. Since that time the house staff of Bellevue Hospital have adopted this method, and four out of five cases are now cured instead of four out of five dying as formerly.

One mistake I wish to call your attention to, which you are very apt to make in washing out the uterus in a case of puerperal fever, and that is, in the use of a stiff double catheter and failure to pass it to the fundus. If you ask some teachers what is the larger cavity two or three days after the uterus has contracted, the cervix or the fundus, you will be told that the latter is the larger. It is of great importance to remember this, as it is a frequent source of trouble. I will relate a case to illustrate this :

About three months ago I was called upon by a doctor to attend a relation of his who was quite sick. This woman had had a baby about ten days previous to his visit. She did very well the first week of confinement, but at the end of this time she experienced chilly sensations and a rise of temperature of 102° F. or 103° F., with some sore throat and an abscess developing in the tonsils. The doctor opened the abscess, taking it for granted that the fever was due to the throat trouble. The next morning she had a chill and a temperature of 104° F. or 105° F. The patient was attacked by one chill after another till the fourth or fifth day after the first chill when she was considered in a hopeless condition. When the doctor called on me and stated these facts I told him it was rather late, but I would go up and see what could be done. I called at 10 o'clock at night and made an examination of the patient. I

found no positive signs of peritonitis, but gave it as my opinion that the woman had something in the pelvic cavity of a septic nature, and that unless this septic material was found and removed she would not live. I put the patient on a table, and examined her uterus, when, to my surprise, I found it measured eight or nine inches. I said if this uterus is not large enough to hold sepsis I do not know what is. I did not operate, but washed out the uterus and left one of my assistants with instructions to continue the washing every hour. I removed considerable material from the cavity of the organ. Shortly afterwards the patient had a violent chill with a rise of temperature to 105° F., but that did not discourage me in the least. For six hours the uterus was washed out with a 1-100 carbolic acid solution and at the end of that time the temperature had fallen to the normal and the woman got well.

I believe now, and I say it with perfect sincerity, that nine cases out of ten cases of puerperal fever that I am called upon to treat in from twelve to twenty-four hours after the onset of the attack I will cure by simply regulating the bowels and washing out the uterus systematically and thoroughly, as I have pointed out to you. Within this period of time the septic material is confined to the uterus, vagina or cervix in a place easy to attack it and has not yet entered the connective tissue, veins or lymphatics. If I am called to wash out the uterus in a case of puerperal fever, and within six hours or so the temperature does not fall to normal, I then make up my mind that the poison has entered the connective tissue, veins or lymphatics, and in that event I open the abdomen and generally find an abscess present. I have done this in a case of well marked phlebitis or milk leg with success, which some of the most eminent men in town pronounced absolutely hopeless. I believe now that there are a great many cases of milk leg where suppuration takes place that ought to be operated upon, and yet I do not open the belly every time as some suppose.—W. Gill Wylie, M.D., in *Inter. Jour. of Surg.*

THE METSCHNIKOVIAN THEORY OF VITAL RESISTANCE.

There is a large and marvellously interesting class of phenomena associated with the history and sequelæ of certain of the acute zymotic diseases characterized as immunity, which has long been recognized as the posssible source of a potent ally to preventative medicine providing that its subtle nature and mechanism should ever become understood sufficiently to render it susceptible of imitation and employment for the arrest and anticipation of infectious disease. The advent of vaccination as a prophylactic in small-pox was the first actual realization of what lay concealed in this direction, and its discovery gave a new importance and significance to what had hitherto been mere conjecture and speculation. Notwithstanding this fact, however, and that this great adjuvant has been usefully employed for a number of years, its underlying and mysterious principles have remained quite isolated and signally barren of generalized results applicable to other disorders of analogous characters. These failures to discover and apply the *mode* of vaccination have not, however, deterred the ambitious, nor caused the speculative mind to entirely relinquish the hope of its ultimate success; but, on the contrary, the spirit of inquiry and experiment has been more of less active all along, and is just now more vigorous than ever before. That the subtle and obscure conditions associated with and constituting the cause of immunity or vital resistance will finally be detected and opened up as a generalized auxiliary to medical art, is the ambition of many and the hope of all.

In an article with the dimensions of the present one, it is quite impossible to enumerate and discuss the several and various kinds of immunity known to exist both as natural and acquired conditions of certain organisms in relation to certain diseases, and we shall have to limit the observations to that of the acquired form alone, which experiences show to be the result of two classes of agencies or influences; namely, immunity from a natural and immunity from an artificial attack of disease. It may be stated that it is now very generally believed that the agencies of immunity, the *vis medicatrix naturæ*, and the factors of vital resistance are one and the same, and that the special functional activities of the body-cells are the chief or sole agents in the arrest, cure, and prevention of germ disease. It is from this conception and rôle of the cells that this paper is undertaken, and its purpose will be to search out and ascertain the nature and influence of these agents and agencies, and, in so far as is possible, to assign to each its separate value and importance in the origin, manifestation, and sequelæ of infectious disease. In all sciences where the processes are imperfectly observed the theory of the process (which is a systematic survey of all the facts of the case marshalled in the order of their casual dependence) is supplemented by an hypothesis which bridges over with a guess the gap left by observation. Immunity, like a number of kindred occult subjects, has had a vast number of hypotheses and speculations to explain it, though none of these have as yet evidenced the *sine qua non* of reconciling observation with calculation to that degree which would warrant their acceptance as the true and legitimate theory of immunity. Unfortunately for medicine, in a large proportion of the explanations advanced in connection with its

dark problems of disease we can never, from the nature of the subject matter, approach nearer to a solution than what mathematicians call "a first approximation." It is through such successive approximations that all science advances; yet in the instance of a diseased organism these must ever remain somewhat of a mystery, and we can never pass to the final stages of the How and the Why.

Among the theories advanced, there is one which has recently gained considerable prominence, which may be provisionally regarded as the correct one, both from the number of facts which it explains, and also from the manner in which it has withstood the tests of experiment and criticism, though its claims are stoutly opposed in some directions. This theory, as originally propounded by its author, Metschnikoff, undertook to ascribe the chief phenomena of immunity, both natural and acquired, to the functional or vital actions of the body-cells, though, as now modified by its expounders, it concedes the ancillary office of other agencies, though of a subsidiary character.

Before proceeding to a detailed consideration of this theory, it is necessary, to a clear comprehension of the issues involved, that we take a brief survey of the salient features in the genesis and life-history of the body-cells. Biology teaches that the cell is the basic element of all life. As a primitive part, it may be either an organism or an element in an organism. That it may lead an isolated life, as plant or animal, or it may become united with other cells and lead a more or less corporate existence; but always, even as an element of a higher organism, it preserves and retains its own individuality as a cell. At first we see that the corporate union is very slight, merely the contact of one cell with another of its own kind—as the filament of a conferva. Rising higher, we see the cell united with others different from it. Plants and animals appear, having structures composed of various cells. Rising still higher, we see animal forms of which the web is woven out of myriads and myriads of cells, with various cell products, processes, fibres, and tubes. Viewed in this manner, the cell is seen to be the elementary factor of life, and the complex organism is but an aggregation of these elements, though this association is not a complete subordination of living parts, but each and all are mutual and co-ordinate, and there exists an interdependence of parts in so far as every part is dependent upon every other part. Each is, so to speak, a condition of existence for every other part, and the unity of the organism is but the expression of its solidarity. This is true, insomuch that, whenever organized substances become differentiated into morphological elements—such as cells—each of these has its own evolution, separate and distinct, and is born, lives, and dies an individual. Hence, whether as an element or as an organism, associated or differentiated, the cell possesses and retains its own individuality, and lives as a separate creature. The vital or functional activity of the cell is a threefold kind. It is directed in part towards its self-preservation, self-propagation, and the altering of outward relations. Virchow distinguishes these severally as the nutritive, formative, and functional activities. Many of these functions of the cells cannot be seen, and are only known through their effects. Others, again, like motion, growth, multiplication, ingestion, and alterations in form, can be directly observed under the microscope. Every cell, whether isolated or joined with others, is influenced by the nature of its environment. This may assist or antagonize its vital functions. They may disturb to a degree amounting to a complete arrest of all the signs of cell-life, or they may accelerate them all to the highest point of activity. Let the temperature be raised, a noxious substance be present, or an enemy to cell-life approach, and there is at once a corresponding change in the behavior of the cell. The cell is autonomous in itself, and yet it is subject to its conditions of external existence. To pass further into details: All microscopists are familiar with the spectacle of a formless lump of albuminous matter (a Rhizopod) putting forth a process of its body as a temporary arm or leg, or else slowly wrapping itself around a microscopic plant or morsel of food-substance, thus converting its whole body into a mouth and stomach. These phenomena are, however, surpassed by another monad, which fastens itself to a plant and sucks the chlorophyll first from one cell and then from another, while a second monad, unable to make a hole in the cell-wall of the plant, comes along and thrusts long processes of its body into the openings already made, and drags out the remains of the chlorophyll left by its predecessors. And still another, a third monad, comes, leading a predatory life, and falls upon those who have filled themselves with food, and takes it away from them. It is here that we stand at the threshold of that dark region where animal will begins, though we are, as yet, in the presence of the lowest forms of life known to science. It is in this direction concerning the facts in the genesis, morphology, and physiology of the cell, as interpreted by the laws of development and heredity, that science looks for a solution of those questions which have hitherto baffled all efforts. To understand and to estimate their several values, and their import as factors in the conditions of immunity, is to solve the mystery and to invoke their allegiance to the medical art.

It has long been known that inert particles of matter, such as pieces of bone, sponge, animal ligatures, and the like, when introduced into the blood and tissues of an animal, would become

speedily dissolved, taken up and destroyed by the cells. The significance of these facts was first pointed out by Hæckel, who compared this process of the cells to that occurring in unicellular organisms by which they took in digested, and lived upon lower forms of life which surrounded them. He concluded that the cells of a complex organism nourished themselves by this same means, and that they took up and digested foreign substances in the same manner as the primitive cells. In other words, he theorized that the nutritive function was the same in both, and that the lower forms were sustained through the power of attacking and devouring other microörganisms, while the higher or complex cells used this power to destroy and remove foreign substances. Carl Rosser extended these observations by the means of experiments, and demonstrated that the amœboid cells of the animal body did really possess this power of taking up and destroying living micro-organisms; and, as a result of this, he drew the inference that the complex organism as a whole was protected against the invasions of pathogenic micro-organisms by this function of taking up and destroying—*phagocytosis*—and that in its absence or imperfection an animal became susceptible. At this stage of the subject Metschnikoff took it up and followed the conclusions of Hæckel. He maintained with him that the power of attack as witnessed in the primitive or predatory cell had never completely declined through the ascending stages consequent upon development, but that it had remained all along, though in a latent form, since the altered conditions in its media by which the necessary pabulum for sustenance was furnished without effort upon its part, and there was no demand for this power of attacking micro-organisms.

In substantiation of these views he proceeded to demonstrate that the latent or potential power of successful attack could be made patent and reinstated by suitable circumstances or exigencies rendering its operation necessary. To illustrate this he employed by means of inoculations attenuated viruses, which, through their mild, gradual, and stimulating influences upon the functions of the cells, caused them eventually to reassert their former or primitive instincts or powers of attack, and overcame and destroyed micro-organisms, which at first destroyed them. In this way he argued that the predatory function could be made to exercise itself in all its old vigor, and that by a series of gradually increasing dosage of quantity and quality the cells were drawn out, acclimated, and made superior to the micro organisms. It was from these facts in the history of the cell's life and experiments given that he formulated and advanced the theory that immunity was vital resistance whose processes were phagocytosis; that, when an organism was susceptible and invaded by pathogenic micro-organisms, it was due to an absence or imperfection of this function of the cells; and when, on the other hand, an organism was refractory or exempt, it was because the cells attacked and successfully destroyed them in the beginning. This very plausible explanation, as drawn from these data, is, however, denied, and it is disputed that the cells possess and exercise this function as a means of defence in a complex organism.

Prominent among these opponents stand Klein, who, by experiments with the bacilli of tuberculosis, has shown that the cells in taking up the micro-organisms are themselves destroyed, and, instead of being a means of protection, it is really the reverse process of destruction. On the other hand, a number of experimenters, such as Metschnikoff, Sutton, Ruffer, and Walker, have demonstrated that the cells will take in and destroy as many as fifty living anthrax bacilli, and still continue to live and thrive. In supplement of both of these apparently discrepant observations, Roux has shown that this process of taking in and digesting micro organisms—phagocytosis—is never an absolute one, but always a relative process, capable of being modified, increased or decreased by a large number of internal and external conditions and influences affecting the body-cells; that it is always and invariably present and operative in direct ratio to the non-susceptibility of any particular organism, and that it is only complete in all its details in those perfectly refractory, while in the susceptible ones it is partial, incomplete, or even entirely absent or unavailing. Hence, it cannot be denied but that in some instances the cells are destroyed, while in others they are the destroyers. Indeed, this is true in so far that in every acute and immunizing invasion of disease there are numbers of cells destroyed. On the other hand, if the organism be the superior antagonist from the very first, the micro-organism fails to gain admission, and the disease is prevented. In the first of these instances, where the micro-organisms enter and destroy the cells for a time, how is it possible for the latter to ever gain the ascendency over the germs, and to cast them out, as we know they do? What is the nature of those influences and conditions by which these are effected? The theory of acclimation or toleration cannot be tenable in the case of a cell that is dead, since, as such, it has really ceased to be a part of the vital economy. *The death of the cell furnishes the key to the entire situation*, though its recognition, as such, has long been overlooked and misinterpreted. The influence and rôle of fever as a vital and conservative reaction of the organism has been long misunderstood. The discovery and employment of its principle are the most important advance which has ever been made in connection with the mechanism and rationale

of vital resistance. The death or destruction of the cells does not terminate its influence upon the organism, as has been thought; but, on the contrary, in itself becomes the source and means by which changes of the first importance to the organism are originated. The death of the cell liberates its constituents or tissue extracts in the form of substances denominated variously as tis sub fibrinogen (Wooldridge); nuclein (Horbaczewski); alexin (Hankin); tuberculocidin (Klebs); and elixir-of-life (Brown-Séquard). All of these, under varying degrees of chemical purity, depending upon the processes by which they are produced, are considered to be the same or analogous substances whose several effects upon the organism are the production of intense cellular actions in the form of chemotaxis, proliferation, fibrosis, and phagocytosis.—J. Wellington Byers, M.D., in *Climatologist.*

(To be Continued.)

THE INDICATIONS OF THORACOCENTESIS.

The author disputes Verneuil's assertion that thoracocentesis converts a serous into a purulent exudation. He concedes that operations for empyema are more frequent now than in the past, but does not hold thoracocentesis responsible for this and does not regard empyema as a more common disease than formerly. Thoracocentesis opens to view many purulent exudations, which formerly ran their course unnoticed, but it never produces them, if properly performed

Four factors must be considered in the performance of thoracocentesis: First, the presence of functional disturbances. Second, the quantity of exuded fluid. Third, the duration of the exudation. Fourth, the nature of the fluid.

Functional Disturbances.—Considerable dyspnœa is an indication for thoracocentesis, because it usually points to the existence of a large quantity of fluid. It may, however, be due to other causes, such as capillary bronchitis, miliary tuberculosis, etc. In such cases the performance of thoracocentesis must hinge upon the question whether the dyspnœa is due to the exudation or the accompanying complications. Dyspnœa, moreover, is an unreliable symptom; it may be completely absent; even when the quantity of fluid is excessive. The same applies to cyanosis. As regards the tendency to syncope, still less reliance can be placed upon this symptom, because it frequently appears too late to serve as a danger signal. In general, functional disturbances are unreliable signs; but when they occur in a case where positive indications for operative interference exist, they should impel us to make haste. Finally, in exceptional cases, if a careful study of the existing conditions shows that the disturbances are actually the result of the exudation, they may serve as indications for thoracocentesis, even if for other reasons the operation had not been attempted.

Quantity of Fluid.—A profuse accumulation of fluid demands thoracocentesis for two reasons: first, because the danger of syncope or asphyxia in general is in direct relation to the quantity of fluid; second, because the long time required for absorption to take place increases the danger.

The quantity of fluid can be estimated in a general way by determining its upper limit. This, however, is not sufficient; we must also determine the lower border of the diaphragm, the distension of the thoracic walls, the displacement of the mediastinum, and the compression of the lung. As long as the fluid does not reach to the level of the clavicles, the quantity of exudation need not enter into the question of an operation.

If, notwithstanding that the level of the fluid extends to the clavicle, there is no displacement of the diaphragm or mediastinum, no marked distention of the chest, and the lung occupies a considerable space in the thoracic cavity, the operation may be postponed. If, however, the lung is entirely compressed, especially when the thoracic cavity is distended, an immediate operation is indicated.

The Age of the Fluid may become an indication for thoracocentesis, even when the quantity of exudation in the pleura is moderate or slight. The exudation re-accumulates after evacuation if it is recent; on the other haud, late operations is sometimes attended with serious dangers.

The fluid should therefore be removed if no hope exists that it may be absorbed by medicinal treatment. Authors who have written upon this subject, have designated three weeks as the limit. It is a matter of difficulty, however, to positively determine the age of an exudation, inasmuch as the development of the effusion does not always correspond with the beginning of the disease.

The Nature of the Fluid can be determined with certainty by puncture. Without resort to this we deal only with presumptions, but these are sufficient to indicate a puncture, which according to the case may be simply exploratory, or at the same time serve to evacuate the fluid.

After thoracocentesis has been decided upon, it must be determined to what extent the contents of the pleural cavity are to be evacuated. In the majority of cases the complete emptying of the pleural cavity is attended with many grave dangers. On the other hand, the evacuation of a small amount of fluid may be useless if a large exudation be present. As a rule about one-half of the fluid should be removed.

Potain concludes as follows:

1. Thoracocentesis, if performed properly and at the right time, never converts a serous into a purulent exudation.

2. The increase of cases of purulent pleurisy which has been attributed to thoracocentesis, is rather an apparent than an actual fact.

3. The indications may be based upon precise and fixed rules.

4. Thoracocentesis should always be considered as a serious procedure, which should be performed under the necessary precautions.

5. It is as great an error not to resort to the operation as it is to perform it uselessly or improperly.—*Revue de thérap. méd. Chirurg.*

Albinism in Mines.—It has long been known that animals living for generations in dark places lose the color which is produced by exposure to the rays of the sun and assume the character of the so-called albino. It has, however, been supposed that the actual change into complete albinism is the result of generations of life in caverns, valleys, and other spots from which the sun's rays have been cut off, and that by gradual change, extending from one generation to another, the races of the albino type have been developed. According to a series of observations recorded in the *Scientific American*, this hypothesis must be given up, or at all events much modified. From the facts discovered during some mining operations along the famous "blue lead" near to Bangor, California, it appears that in this range of mines there was recently reopened a mine that had once been worked under the name of "the old Potter Mine" (now called after its owner, the Bishop Mine, but had been closed for thirty years. A young explorer entered a dry slope leading to a second shaft, the existence of which was unknown owing to a thick growth of brush and trees about it. In the darkness he was surprised to hear a noise arising from a number of flies that were buzzing around him. One of these he caught, and on examining it by the aid of his lantern, he was astonished to find that it was of pure white color, although its eyes were red. Soon afterwards he heard what was unmistakably the sound of a rattle-snake, and directing his light towards the place whence the sound proceeded he saw the snake so clearly that he was able to strike it down by throwing at it a portion of rock, and afterwards to kill it by crushing it with other portions of the same material. On taking this animal into the light it proved, like the flies, to be of the purest white. Professor Harlow Ballard, of Buffalo, who was at the time near the mines making mineral explorations, procured the body of the snake and also several specimens of the "white flies." Within a week, under the influence of sunlight, the flies assumed the natural dark color of the common house fly. The mine had originally been closed owing to flooding, but the water in it had subsided and air had been admitted, but no light. The flies, Profeseor Ballard believes, were the changed offspring of common flies imprisoned when the mine was closed. The snake, he supposes, had been carried down by a water current and had remained in the darkness long enough to undergo the loss of color of its tissues which it so markedly exhibited. The observations above recorded open up the question whether we ought to consider the change of color in the flies and the snake as due to the same cause as that which produces the true albino. Buffon assumed that the primitive color of every living thing in nature was white, or, to speak more correctly, that every living thing in nature was primitively colorless, and that development of color was sequential to changes gradually induced by varieties of conditions to which things of life have been subjected in the course of ages. The after-suggestion of Blumenbach, that the peculiar color of the eyes of albinos is due to the absence of the plack pigment, exploded the hypothesis of Buffon, and afterwards led to the view generally accepted, that the white color of the skin is brought about by a similar cause and that the loss of coloring substance is induced by a gradual and hereditary process of change. In this last record the change in the snake seems to have been direct, while in the case of the flies there was the rapid development of dark color so soon as the influence of the sun was brought into play, as if the sun's ray had developed at once a pigmentary or coloring substance. The observations open up a new line of investigation for those who are devoted to the study of the influence of external forces on living structures and of adaptability to circumstances as part of the varied manifestations of vital phenomena that must be ever in progress in our universe.—*Lancet.*

Primary Tuberculous Ulcer of Tongue.—Jacob S., aged 24, single, stair-builder. Never had syphilis and never had any eruption upon the body. Nine months ago he noticed a small lesion upon the point of the tongue. It appeared as a small, hard lesion about the size of a pin-head, grayish in color, and was slightly painful when touched by food, etc. It commenced on the point of the tongue a little to the right of the median line, and later also another on the left of the median line. The two lesions gradually became larger and have never healed since their origin. The pain has never been marked at any time. At present this ulcer occupies the apex of the tongue, somewhat oval in shape, about three-quarters of an inch from above downward. The base is reddish in general appearance, like the floor of a granulating wound, having an irregular surface

consisting of many pin-head or smaller reddish points, between which there is a grayish, yellow material consisting of pus corpuscles, serum and broken down tissue. It bleeds easily upon touching with a blunt instrument and is not hard, like an epithelioma. The margin is irregular, and the edges are perpendicular, except at one point to the right, where it is undermined. The tissue forming the margin is elevated, not very firm in consistence, not waxy in appearance, is reddish in color, about one-eighth of an inch in diameter and not very sharply limited. Outside of this somewhat limited elevated margin, the tongue is in an apparently normal condition, except to the right there are two pin-point whitish lesions—small ulcers—about one-tenth of an inch apart and one-eighth of an inch outside the ulcerated edge of the large ulcer. No enlarged glands about jaws. Six weeks ago he contracted a severe bronchitis which is now almost gone. At that time he weighed 180 pounds, the same as he weighed before the appearance of the ulcer, but at present weighs only 165 pounds. This weight he lost in six weeks and before that time he felt perfectly well, having a good appetite, no cough and lost no flesh. At present he has a poor appetite, and a slight cough. Has broncho-vesicular breathing at left apex with some elevation of temperature and increased heart action. No rales. Has marked wavy breathing.

Dr. Elliot could corroborate the diagnosis in one of the cases. He had examined microscopically, a piece from the patient's tongue some weeks ago. He had found no bacilli, but the histological structures of the growth indicated in a typical manner tuberculosis.

Dr. Robinson has not found bacilli in the patient's sputum but out of forty sections he had found bacilli in a few. He believed the first case was a primary tuberculosis of the tongue, as the patient has remained in excellent health since the local trouble began nine months ago until the attack of bronchitis six weeks ago. Since the attack of bronchitis he has lost in weight and presents evidence of a beginning tuberculosis of the lungs. —Dr. Robinson, in *Journal of Cutaneous Diseases.*

Exploratory Trephining and Ligation of the Vertebral Artery.—Dr. J. B. Beaver and Dr. Mills reported a case which they regarded as of unusual character and probably unique. The patient was a boy aged eleven, who had, in December, 1889, commenced to complain of pain in the head and some stiffness of the neck. Other symptoms, which had developed slowly, were failing sight, spells of nausea, occasional attacks of violence or excitement, strabismus, staggering in walking (a little more to the left than to the right), a feeling of dizziness described as "going over," and shortness of breath. Before the operation double optic neuritis in an advanced stage was present. Hearing and taste were not impaired, there was no motor paralysis, nor was there disturbance of common sensibility. No nystagmus. Examination showed a pulsating tumor in the occipital region, slightly protruding through a small opening in the skull, to the left of the occipital protuberance. A distinct thrill seemed to be present. Three scars were noted on the posterior aspect of the head, one just above and to the right of the opening. The opening in the skull was enlarged so as to examine the supposed aneurism which appeared to be in the line of the lateral sinus, but when this was done the character of the swelling was too uncertain to warrant them to go farther. An exploring needle was introduced, the withdrawal of which caused bleeding which required long pressure to arrest. Later the left vertebral artery was ligated, but with no beneficial results. After the operation the pupil on the side corresponding to the cicatrix was contracted. The patient slowly grew weaker and died several months after the operation. Autopsy revealed a gelatinous mass which had occupied much of the fourth vertricle, reaching from or into the middle lobe of the cerebellum and both cerebellar hemispheres. The ventricles of the brain and their horns were enormously dilated, and at several places at the base rupture had almost taken place into the cranial cavity. When the spinal cord was severed from the oblongata, the central spinal canal was found to be one-sixth of an inch in diameter, and from it much fluid escaped. The chief points of interest were the reference to the diagnosis of aneurism, the mechanism of the process by which the opening in the skull resulted, and the production of the hydrocephalus and hydrorachis.

Senses of Man.—Camille Flammarion, the French astronomer, in referring to the possibilities of creation and the imaginable inhabitants of other planets says :

" Terrestrial man is endowed with five senses, or rather with six. Why should nature have stopped there ? Why, for example should she not have endowed certain mortals with an electric sense ? with a magnetic sense ? with a sense of locality ? with an organ capable of preceiving ethereal vibrations, of infra-rouge and of ultra-violet ? Of a sense permitting one to hear at a distance, to see through the walls. We eat and digest like the grosser animals. Do there not exist worlds where the nutritive atmosphere dispenses its inhabitants from so ridiculous a burden ? The smallest swallow, the dusky bat itself has the advantage over us of flying through the air. Is not our world, where the men of the greatest genius, the most exquisite woman, finds himself or herself nailed to to the earth like the common caterpillar

before its metamorphosis, a very inferior one? "Well! Would it be so disagreeble to inhabit a world of perfume and voluptuousness where the flowers would be animated? where suns of many colors—the diamond joined to the ruby, garnet to the emerald and the sapphire—would shine night and day—blue nights, scarlet days—in the glory of an eternal springtime; many colored moons sleeping on the mirror of the waters, phosphorescent mountains, aerial inhabitants, men, women, and perhaps other sexes perfect in their forms endowed with multiplied sensibilities, luminous at will, incombustible as asbestos, immortal, perhaps. At least, Liliputian atoms that we are, once for all let us be convinced that all our imagination is but sterility in the midst of the infinite, scarcely seen through the telescope."—*Doctor's Weekly.*

THE LEGAL RESPONSIBILITY OF HOSPITALS IN THE TREATMENT OF PATIENTS.—According to Lorenzo D. Bulette, in the *International Medical Magazine*, the grounds on which a hospital can claim to be exempt are twofold: (1) On the ground of public policy; that if the hospital is liable for the actions of its physicians, charitably disposed persons will be discouraged from contributing to its foundation and maintenance. This argument is met by the statement that the public policy also requires that the onerous duties of a hospital practice shall be performed in a moderately satisfactory way, and that such work should not be exempt from liability from negligence or ignorance. (2) The hospital claims exemption on the ground that it has no capital stock, no provision for making dividends or profits; that its funds are held in trust and exclusively dedicated to charitable purposes, and that no part can be applied to indemnify patients.

The Supreme Court of Rhode Island has decided, after much and careful consideration of the cases, that hospitals cannot be exempted, stating, in regard to the second claim for exemption, that their funds are as applicable to the payment of damages for tort as to the payment of counsel for defending an action for such damages. Both payments are to be regarded as incident to the administration of the trust. The Supreme Court of Massachusetts, in a similar case, has decided in the opposite way. The question, therefore, is more or less of an open one, but after study of the cases on record, Mr. Bulette concludes that the hospital must respond in damages to patients when malpractice has been clearly proved.—*University Medical Magazine.*

MORPHINE IN HEART DISEASES.—Dr. Hervouet (*Le Bulletin Médical,*) has studied the action of this drug in mitral insufficiency. All authors agree that it is a valuable remedy in aortic insufficiency and stenosis. It is, however, the same in mitral valvular lesions and asystolia, as opium is thought contra-indicated on account of its congesting action. However, the numerous cases of the writer show that this is not always true. When other means have failed morphine may be tried in order to calm the dyspnœa and nervous symptoms, and procure sleep. In certain cases where cardiac remedies are of no service, or even injurious, then morphine will calm and stimulate, easing the dyspnœa and causing the other remedies to act. The presence of albumen in the urine is not a contraindication if the albumen be of cardiac origin. If used in asystolia it is well to use digitalis together with the morphine. Caffeine, on account of its stimulating action on the heart, is of especial use in replacing the injections of morphine, when it is desired that the patient become not habitutated to its influence. It may be employed at the same time as the morphine. In all cases morphine should be used with great prudence. More than a centigramme ($\frac{1}{6}$ of a grain) should not be given at a time; often half that amount will be sufficient. It is more advisable to repeat the injections frequently than to administer large doses.—*Cin. Lancet Clinic.*

THE PATHOGNOMONIC SIGNS OF PERFORATING APPENDICITIS.—Dr. Simon Baruch (*Med. Record*) emphasizes the point that symptoms of shock, carefully looked for, may always be found in perforating appendicitis. These are as follows: the countenance is anxious, the finger-tips, nose and ears are cool; pulse and respiration are out of proportion to temperature, the right inguinal region is very tender, the patient usually lies with the right leg drawn up. Guided by them, Dr. Baruch opposed the views of an experienced physician in one case, insisting upon the operation; and in another did not approve of the operation advised by an experienced surgeon. In both cases his reliance on these pathognomonic signs proved useful to the patient. On the ground of his own experience, as well as that of others, the author urges that when perforating appendicitis is diagnosed, either positively or probably, an immediate operation to remove the exciting cause is as imperative as ligation of the vessel in hæmorrhage.

The fact that laparortomies are new constantly performed, under strict asepsis, with absolute safety, should induce the attendant to clear up a doubtful diagnosis of perforating appendicits by an operation before septic peritonitis forbids it.—*Inter. Jour. of Surg.*

BROMIDE OF ETHYL AS AN ANÆSTHETIC.—Bromide of ethyl has been somewhat extensively employed in Vienna for anæsthetic purposes. In Professor Billroth's clinic it was used 300 times without mishap. Death, however, subsequently

occured in the case of an out-patient who was about to have a very large boil on the arm incised. While anæsthesia was being induced in the usual way the man suddenly became cyanotic and the respiration and cardiac movements ceased. Artificial respiration was persevered with for an hour and a half, but was of no avail. At the post-mortem examination there were found adhesions in both lungs; the heart was fatty and easily torn. The microscope showed that there was fatty and parenchymatous degeneration of the liver and kidneys as well as of the heart. There was no hyperæmic condition of the brain as in death under chloroform. It would seem, therefore, that whatever anæsthetic had been employed the patient might have died; so that no serious degree of blame can be attached to the bromide of ethyl.—*Lancet.*

The Best Nutritive Enema.—Ewald, as a result of experiments, found that eggs, even though not peptonixed, were, to a considerable extent, absorbed by the rectal mucous membrane. Accoording to the *Mercredi Medical* for April 1st, Huber, of Zurich, has recently repeated Ewald's experiments in Prof. Eichhorst's clinic, and announces that the absorption of raw eggs is greatly aided by the addition of common salt, in the proportion of fifteen grains to each egg, are the best for nutritive enema. His method of procedure is as follows: two or three eggs are taken, and thirty to forty-five grains of salt are added. They are slowly injected by means of a soft rubber tube, carried as high up the bowels as possible. Three such enemata are given daily. An hour before each enema the rectum is cleaned out by means of a large injection of warm water.—*N. Y. Med. Times.*

The beak of the mosqutio is simply a tool box, wherein the mosquito keeps six miniature surgical instruments in perfect working order. Two of these instruments are exact counterparts of the surgeon's lance, one is a spear with a double-barbed head, the fourth is a needle of exquisite fineness, a saw and a pump going to make up the complement. The spear is the largest of the six tools. and is used for making the initial puncture; next the lances or knives are brought into play to cause the blood to flow more freely. In case this last operation fails of having the desired effect, the saw and the needle are carefully and feelingly inserted in a lateral direction in the victim's flesh. The pump, the most delicate of all six of the instruments, is used in transferring the blood to the insects' stomach.'"—*Discovery.—Doctor's Weekly.*

Induction of Premature Labor by Glycerine Injections.—Pelzer, *Centralbl. f. Gynäk., No. 2, 1892*, gave a very satisfactory account of his experience of this method. He employs chemically pure, sterilized glycerine. A hundred cubic centimeters are thrown up between the membranes and the uterine wall. Full precautions are taken, not only against sepsis, but also against the entrance of air into the uterine cavity. In a short time regular pains set in. The membranes present well, and labor is usually easy. In two cases where labor was induced on account of contracted pelvis, the pains set in, in the first case, within half an hour, in the second, after an hour. Glycerine injections are, in Pelzer's experience, valuable not only for the induction of premature labor, but also for accelerating delivery at term. In uterine atony it proves very efficacious.—*Medical and Surgical Record.*

Mr. Tyndall has been giving some startling statistics concerning nursing as a livelihood. A healthy girl of 17, he says, who becomes a nurse dies twenty-one years sooner than a girl of the same age moving in the general population. That is to say, a hospital nurse of 25 has the same expectation of life as a person 58 has, who is a member of the community at large. Every one is aware of the additional risks that inhere in the service of the trained nurse, but these figures are sufficiently startling. It is not probable, however, that they will deter many from the career, but they will increase the appreication of the public for the self-sacrifice and often personal heroism of the hospital nurse.

An officer of the police detail said recently: "When I was a mounted policeman I learned of a most humane and kind method of curing a balky horse. It not only never fails, but it does not give the slightest pain to the animal. When the horse refuses to go, take the front foot at the fetlock and bend the leg at the knee-joint. Hold it thus for three minutes, and let it down and the horse will go. The only way in which I can account for this effective mastery of the horse is that he can think of only one thing at a time, and having made up his mind not to go, my theory is that the bending of the leg takes his mind from the original thought."—*Ex.*

For bronchitis, *Guy's Hospital Gazette* suggests the following:—

℞.—Ammonii carbonat . .	gr. xvj.
Syrup. tolu	f ʒ iv.
Tinct. scillæ	♏ xl.
Tinct. cinchonæ comp. .	fʒ ij.
Spirit. chloroform . . .	♏ iv.
Aquæ rosæ	fʒ ij.—M.

Sig.—A fluid drachm every four hours.

THE CANADA LANCET.

A Monthly Journal of Medical and Surgical Science, Criticism and News.

☞ *Communications solicited on all Medical and Scientific subjects, and also Reports of Cases occurring in practice. Address,* DR. J. L. DAVISON, 12 Charles St., Toronto.

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AGENTS.—DAWSON BROS., Montreal; J. & A. MCMILLAN, St. John, N.B.; GEO. STREET & Co., 30 Cornhill, London, Eng.; M. H. MAHLER 23 Rue Richer, Paris.

TORONTO, OCTOBER, 1892.

The LANCET has the Largest Circulation of any Medical Journal in Canada.

THE ONTARIO MEDICAL COUNCIL.

Following the remarks in the last two issues of this journal, on the difficulties existing between the Medical Council of Ontario and certain members of the profession, we wish to draw attention in the next place to, what seems to us, an error on the part of the gentlemen who think they have a grievance; and an injustice to the Council. We refer to the charge made, that the members representing Universities and the Medical Colleges are able to run, and indeed *do* run the Council in their "own interests." This we are assured is a grievous error. There is no one, or more than one, of these representatives who have, or can have, any interest apart from the general profession. We are aware that the above statement may be challenged, and the objection raised that college representatives may wish to keep the standard of education low, in order to attract large numbers of students, from whom they, the college men, shall receive large sums in fees. But surely, if a man has enough sense to be a representative of his college in the Council, he will have sufficient foresight not to kill the goose that lays his golden eggs, which he would certainly be doing did he attempt to lower the standard of medical education, or to check the natural and necessary upward and onward tendency of this particular branch of education. Our Council has now been long enough in existence to have left its imprint upon the present generation of medical men, and to have made a record abroad as to the qualifications of its licentiates. Now it cannot be denied that these qualifications are considered good, and are respected wherever they are known. As to the medical men of Ontario to-day, taken as a body, it may not become us to speak, but they are *surely not behind* those of any other state or country in the world, of equal age, wealth and culture. These are facts, or are believed to be facts, by the great majority of men in Ontario, professional or otherwise, who have any opportunity of forming a judgment in the matter.

How then, can the natural tending upwards of the standard of education have been burked by the college representatives? The condition of medical education in Ontario to-day, the name we have away from home, the very status of the men composing the active, working profession, here and now—all these go to show that advance has been made, and that we believe, as rapidly as the circumstances of a young, poor country would possibly allow.

Even had the college men in the Council the desire to lower the standard, or to keep it at a standstill, they would still lack the power, for want of numbers; for if we look at the list of members, we find that out of a total of twenty-six representatives, only nine are from the colleges. Moreover, it is a well-known fact that there is not a great unanimity of feeling existing between these college men. The rivalry of the different schools precludes such a state of affairs. But let it be again noted, that even did the college men unite, and form a solid phalanx, a thing which we are safe in saying has never occurred, they would be only nine, as against seventeen territorial representatives and homœopaths. How, then, can this absurd charge be substantiated?

Certain it is that men engaged in teaching medicine, know more than others, the wants and capacities of our students of medicine, and they have, or at least some of them have, objected to too great changes being made in a short time, in the curriculum. This must appear, to any unprejudiced observer, as wise and prudent. Their representatives on the Examining Board have given, so far as it is possible for examiners to give it, uniform satisfaction, by the thorough and impartial way in which they have discharged their duties. It is an open secret that some of the examiners who are not engaged in teaching, have

not been so successful in examining—a thing naturally to be expected. If a man is engaged each year in teaching a subject, he will necessarily make a better examiner in that subject than one who is engaged in general practice, and does not devote special attention to any one subject. And this while the qualifications and ability of the latter gentleman are quite on a par with those of the teacher.

The way is open, and we think it a fair and just way, to lessen the number of college men in the Council. We mean, by taking away the right of representation from those colleges or universities that do not teach medicine. It seems an anomaly, and opposed to the spirit of college representation, that such should have a voice in medical matters.

AT OUR GATES.

Now that the grim hand of cholera is knocking at our gates it becomes the duty of every medical man to be thoroughly posted as to the best methods of checking this scourge, should it succeed in gaining a foothold in America. It is all very well for Sir Edwin Arnold to playfully refer to it as "a pain in the tummy." In his case "familiarity breeds contempt," for, coming as he does, from India and Japan, where the disease usually attacks the natives, the Europeans enjoying a certain immunity, owing to their more cleanly habits, he considers it a thing to be made light of. But, taking the mortality in Hamburg, one in every two-and-a-half attacked dying, the awful nature of the plague becomes apparent.

Every suspicious case of diarrhœa should be closely watched, and not merely put down as harmless, for with cholera in New York city, as it is at present, a traveller might easily come into Ontario bearing the germs of the disease, in spite of quarantine, and let a case but once get into a community and infect the source of water supply, and it will require strenuous efforts upon the part of the health authorities to eradicate it.

Cholera is propagated in somewhat the same manner as typhoid fever, the germ entering the stomach by means of the water or food supply, and possibly by means of dust, laden with germs entering the naso-pharynx and subsequently swallowed. In our opinion the latter source of infection is much more common than is ordinarily supposed. The fact that England, with her many ports open to foreign commerce, has successfully grappled with the disease, should make us hopeful that our system of quarantine will be likewise efficient to isolate any cases entering Canada.

In this disease prevention is truly much better than cure, for, like the majority of acute diseases, it is self-limited, and runs a short course, characterized by great depression of the vital forces.

All water should be carefully boiled before use, and personal cleanliness carefully attended to. With these details followed out, and the people prevented, so far as possible, from becoming panic-stricken, the chances of an epidemic are greatly lessened.

Sir Edwin Arnold says, "the germs of cholera cannot survive a low temperature, dying upon the approach of winter." That this is not the case in Canada, is shown by the fact that in the epidemic fifty years ago the disease lasted through the winter and spring months, and it has been clearly proven that the bacillus may exist in ice, all of which goes to warn us not to relax our vigilance one iota on account of the approach of cold weather. While there is not great danger to be apprehended at present, it is well to remember that forewarned is forearmed.

MEETING OF THE CANADA MEDICAL ASSOCIATION.

The twenty-fifth annual meeting of the Canada Medical Association was held in the Parliament buildings at Ottawa, on September 21st, 22nd and 23rd. It was indeed a successful meeting; upwards of one hundred and fifty members being present, and those who have in the past entertained any fears that the Association was on the wane, may dispel the illusion. There was a goodly contingent from Montreal, and a fair number from Toronto and Hamilton; while the local profession entertained the members in a becoming manner. On the evening of the 22nd a magnificent banquet was participated in by members of the Association, at which music and song, together with reason and soul, constituted the order of business until the small hours of the morning. Not a little of the success of the meeting was due to the attendance of honorary members from the United States, and

we have to thank Drs. McLean, of Detroit, and Bulkley, of New York, for doing considerable to insure the success of the meeting. Considerable interest was manifested in the discussion of the subject of cholera.

The Hon. John Carling, Minister of Agriculture, who was there at the special request of the Executive, assured the members of the Association that the Government was fully alive to the importance of the subject, and was doing everything that could be done to prevent the cholera from entering Canada by any of her ports, or other means, and by next spring their system of protection would be simply perfect. The Minister referred to the excellent work going on at Grosse Isle, and spoke of the building of the deep water wharf, which would be built at Quebec, and would probably cost $100,000. Steps were being taken at all points, and ports that money would not stand in the way, nor anything be left undone to insure the success of the preventive measures.

The meeting is to be held in London, Ont., next year, and the following constitute the officers :

President—Dr. Chas. Sheard, Toronto.

Vice-Presidents—Ontario—Dr. Wickard, London ; Quebec—Dr. Shepherd, Montreal ; British Columbia—Dr. Milne, Victoria ; Manitoba—Dr. Chown, Winnipeg; North-West Territories—Dr. Kennedy, Fort McLeod ; Nova Scotia—Dr. Lindsay, Halifax ; New Brunswick—Dr. Daniels, St. John ; Prince Edward Island—Dr. McLeod, Charlottetown.

Local Secretaries.—Ontario—Dr. Waugh, London; Quebec—Dr. Desrosiers, Montreal ; British Columbia—Dr. Lefevre, Vancouver ; New Brunswick—Dr. McLarne, St. John ; Nova Scotia—Dr. Morrow, Halifax ; P. E. I.—Dr. F. B. Taylor, Charlottetown ; N. W. T.—Dr. Cotton, Regina ; Manitoba—Dr. Milroy, Portage la Prairie.

General Secretary—H. S. Birkett, Montreal.

Treasurer.—W. H. B. Aikens, Toronto.

Tobacco and Brain Power.—Says the *St. Louis Clinique* :—The classes in Yale College are subgraded according to scholarship, and it is found that in the first or best grade only twenty-two per cent. use tobacco ; in the second grade, forty-eight per cent.; in the third grade seventy per cent., and in the fourth or lowest, eighty-five per cent.

RESOLUTION OF THE MEDICAL PRACTITIONERS OF OTTAWA.

At a meeting, held this first day of August, 1892, of the Ottawa members of the Bathurst and Rideau Medical Association, which includes all the registered medical practitioners resident in the City of Ottawa, the following resolution was carried unanimously :

Resolved, That this meeting, having been officially informed of the action of the Dominion Government whereby by Order in Council—"Every qualified medical practitioner whose name is registered in the Medical Register of the province in which he resides is appointed an authorized medical practitioner for the purpose of issuing medical certificates as required by the *Civil Service Act.*" That they desire to express their full appreciation of the courtesy thus extended to the members of the medical profession throughout Canada ; and they believe also that this course is in the interest of the members of the Civil Service, equitable towards the members the medical profession and equally protective to the interests of the Government, as compared with the former regulation of having only one authorized physician in each locality.

Resolved, That this meeting is of the opinion that it would be well for the Government to adopt and have printed a form of blank medical certificate to be filled out by physicians, giving such to Civil Servants who are in and under their care.

Resolved, That whilst the members of this Association desire to express the opinion that there is no body of men who would more readily condemn a physician for wilfully issuing an unwarranted and unworthy medical certificate than the members of the medical profession, and whilst they declare that such a physician would be deserving of the severest censure and his name should be erased by the Government from the list of authorized medical practitioners--yet inasmuch as there are cases where the trained medical mind is enabled to discover slight symptoms of disease, indicating serious possibilities in the near future, where divulgence might thwart the chance of cure, together with the fact that the lines of professional secrecy are inelastic and demand invariably the most honorable observance, it would be but justice that before any physician's name is removed by Order in Council from the list of authorized medical practitioners under the Act, for reported irregularity, he should have the right extended to him of explanation and of defending his action.

Resolved, That a copy of this resolution be sent

to the Dominion Government, through the Honourable the Premier, Sir John Caldwell Abbott, and that a copy be also sent to all the medical journals in Canada.

A. F. Rogers, M.D., *Pres.*
H. B. Small, M.D., *Sec.*

THE ADDRESS ON SURGERY AT THE BRITISH MEDICAL ASSOCIATION.

It is worthy of note that the address on Surgery at the late meeting of the British Medical Association was delivered by a colonial member, Dr. Hingston, of Montreal. This is the first time that any "colonist" has had that honor. The Americans have been represented by Professors Flint and Gross, and now the conservatism of a great British institution has become liberal enough to permit a Canadian to take the place of honor. We have read the address and can say, that as Canadians we may be proud of our representative. In Canada, Dr. Hingston has long been looked upon as an authority in the subject of Surgery, and from the manner in which he was received, and from the comments of the British medical journals, we may congratulate ourselves upon the choice having fallen upon so worthy and capable a man. He took advantage of the ocasion to assure the meeting of the firm attachment of Canada to the parent state. "She glories," he said, "in your past, she is deeply interested in your future; your glory is her glory, your future is her future; and she is grateful for any thought of her in your councils, especially where science is concerned, and where the common good of mankind is the purpose." This is a loyal and beautiful sentiment, and it would be a "glorious" thing for Canada if a similar interest in our welfare could be aroused in the breast of the average Briton.

Correspondence.

To the Editor of the Canada Lancet.

Sir,—In an editorial of the August No. of the Canada Lancet mention is made of the good which has been accomplished by the Medical Council of Ontario, in elevating the standard of medical education; an assertion which, I think, no one conversant with the facts will attempt to deny or dispute. Reference is also made to the irritation and annoyance felt by some, respecting the penal clause, for non-payment of the annual assessment, and it is of the latter that I wish to make a few remarks. Having attained my membership in the College of Physicians and Surgeons by passing all the examination established under its curriculum—I believe it cannot be said that I am inimical to that institution. The special point which I wish to bring out is this, that non-resident members, under pain of having their names stricken off the register, are compelled to pay the annual assessment of $2, the same as those residing in Ontario. Being residents of another country we partake of none of the benefits. When in August of last year I became aware of the penal clause, in the Amended Act, I wrote my friend Dr. John L. Bray, of Chatham, and under date of August 12th, he said: "It (the penal clause) may prove unfortunate in some cases, but it became a necessity to make some change in the law, as some $6000, due the Council, in the shape of assessments, could not be collected. One thing, if a man should be struck off for this cause, he can easily be put on again by *paying up*, so that there is no hardship committed by it that can not be easily remedied."

Now, while this may be true, there is another phase of the question which seriously presents itself to my mind. Suppose my name be struck off the register for the non-payment of assessment; afterwards a change or amendment be made in the Medical Act of Ontario, enacting that only the names of such as are *then* on the register, shall be legally qualified practitioners, and subsequently I return to Ontario, and wish to resume practice, I would find myself legislated out of my profession, and unable to gain redress; I can conceive of such a condition being possible and working a great hardship. I would suggest as a preventative remedy that the Act be amended so that the names of all non-resident members of the College who neglect or refuse to pay the annual assessment be placed in a separate part of the register, so that should any change be made in the Medical Act, they will not be left out in the cold, and should they return to Ontario, not find themselves, like Othello, with their "occupation gone." It may be said that the

annual assessment is but a small matter of $2; but why should non-residents, who are not benefited, be compelled to pay? There is a principle involved. "Taxation without representation is tyranny," and its attempted enforcement changed the political map of this continent. Thanking you for the space,

I am, yours truly,

JAMES NEWELL.

Detroit, Mich., Sept. 16, 1892.

GOLDEN RULES OF SURGICAL PRACTICE.—*Continued—(Times and Reg.)*:

HEAD.—Do not forget that an injury to the head is never too slight to be despised, and never too severe to be despaired of.

Never be precipitate in opening a hæmatoma of the scalp.

Never close a scalp wound until or unless all dirt is or can be removed.

Never hesitate to suture contused and lacerated wounds, but in doing so do not forget the drainage.

Never put stitches in deeply; there is no reason to wound the tendon.

Beware of cellulitis of the scalp when the dangerous layer of the scalp has been opened. In such cases do not be afraid of incisions, only let them be run from before backwards, be 2 inches in length, and down to the bone. In these cases beware of depletion or deprivation, because they occur in the broken down.

Never forget to examine the sub-occipital glands as an index to:

1. Erysipelas of scalp.
2. Pediculosis.
3. Syphilis.

Do not hesitate to trephine if the skull cap is exposed—if there are definite signs of localized paralysis, and if there is no suspicion of general pyæmic infection.

Never forget that a blow on one side of the skull often produces its main effects on the opposite side of the skull.

Do not mistake the depressed center of an extravasated blood-clot or congenital malformation, or atrophy, for depressed fracture, or the sutures for a linear fracture.

Remember that the more a fracture approaches the punctured form the greater the need for the trephine. Do not forget the rule:

If the depression is slight,
If the extent is considerable,
If no symptoms are present,

leave it, or *vice versa*, operate.

Remember that the operation for the removal of fragments, which have been pressing on the brain is rarely complete, spiculæ being often left behind.

Remember in trephining the skull that you are to consider the bone under your instrument to be the *thinnest* you have encountered.

Never undervalue the use of calomel and opium in head injuries.

INCONTINENCE OF URINE TREATED BY COLLODION.—Dr. J. E. Powers (*Mass. Med. Jour.*), says. The mechanical treatment to which attention is called, is the treatment by collodion. It is most easy of application, occupies scarcely a minute, and can be carried out at school, college, or elsewhere, in perfect privacy. All that is necessary is, while the prepuce, slightly curved up, is held with the left hand, to smear over the little cup thus formed by the extremity of the prepuce with collodion by means of a small camel's hair pencil or blunt end of a penholder. Almost as fast as applied the collodion solidifies. In contracting it draws closely together the edges of the prepuce, and thus the exit for the escaping urine is closed.

A boy of eleven years of age has, after one lesson, been able to use the collodion, and has used it every night carefully and diligently, so anxious has he been to cure himself of what he considered a disgrace. A fortnight's use is sometimes sufficient for the cure. A relapse is easily dealt with. A solution of gutta-percha in chloroform would seem at first sight to be equally applicable, but it is not. The solution of gutta-percha is much longer in hardening, and it possesses no contractile powers. When the child desires to pass water, the little wedge or cap of collodion is easily removed with the finger-nail.

When I first used this collodion application, my expectation was that the bladder would act so forcibly against it as to cause sudden pain, and oblige the patient to jump at once out of bed and quickly remove the collodion, and that he should then repeat the application before returning to sleep. I was greatly disappointed. There was no pain; no awakening; but on rising in the morning the prepuce was found slightly distended

with urine, and the collodion was removed without difficulty.

Leukæmia.—Weber (*St. Petersburger Med. Woch.—Brit. Med. Jour.*) gives an analysis of some twenty-eight cases of this disease. He divides them after Virchow, into (1) the lienal form, where the white cells are large, the nuclei being small; (2) the lymphatic form, where the white cells are small and the nuclei large; and (3) the mixed form. Twelve of these 28 cases belonged to the first group, four to the second, and twelve to the third. The spleen was enlarged in all the cases. The splenic tumor was smooth, and where the increase in size had been rapid there was evidence of local peritonitis. In ten cases there was considerable enlargement of the liver, but this was not uniform, as is readily explained by the morbid anatomy. In ten cases there was polyadenitis, whereas in four cases the mesenteric glands were alone enlarged, in four the cervical and thymus, in two the mammary glands, and in two the axillary glands. In these last four cases there was suppuration in the glands. In the case of the mammary glands the suppuration began in small foci in the periphery. When the glands were involved, the lymphatic form of the disease predominated. The author's table would show that the disease may occur at all ages. Four of his cases occurred in the first year of life, and three in the seventh decade. It was most frequent between the ages of 15 and 25. The author lays stress on psychical influences as a cause. He then relates in detail two cases, one of which is remarkable, as the patient seems to have recovered. In this case the spleen and many of the glands were involved.

Inequality of Pupils in Epileptics.—Unequal size of the pupils (anisocoria) has long been recognized as occurring in some cases of epilepsy, and has been supposed to have some diagnostic value when the nocturnal form of epilepsy is suspected to exist. Browning (*Jour. of Nerv. and Ment. Dis.—Brit. Med. Jour.*) found unequal pupils in 16 out of 150 cases of epilepsy. He distinguishes three types of the affection: (1) cases in which the inequality is great; (2) slight but fairly constant difference in size; (3) latent anisocoria—that is, inequality only distinct on faint illumination. Three of his cases were of the first type; two of these were syphilitic; the third was traumatic epilepsy, hence the anisocoria was regarded as being a local symptom. In the ten cases belonging to class 2, the constancy of the condition is opposed to the supposition that it was a paretic symptom due to post-discharge exhaustion. Browning observed latent anisocoria first and more frequently in non-epileptics; he suggests that it indicates disproportionate innervation of the iris by the sympathetic, which only becomes manifested when the action of the oculo-motor is relatively or wholly suspended.

Treatment of the Tympanites in Typhoid Fever.—E. T. Nealey M.D., in the *University Med. Mag.*, says: I have always considered tympanites as a dangerous element in typhoid fever; for I have seen several patients die apparently from the distention due to the accumulated gases, a condition which I was unable to relieve satisfactorily. The bowels often fill up with alarming rapidity, this being probably the cause of perforation in many cases.

I saw a case in consultation last year, which was undoubtedly intelligently treated. The distention was in the extreme. So far as I was able to determine the case was uncomplicated with perforation, and it seemed as though the man would live if relieved of the accumulation of gas. All of the usual methods had been applied—injections, aspiration and rectal intubation—but with negative results.

A similar case occurred in my own practice during the last year. A boy, nine years of age, during the third week of fever, *suddenly* developed an alarming tympanites. The abdomen was fearfully distended, lower part of chest wall was widely forced out, stomach collapsed and unable to retain drugs, food or stimulants. Respiration was labored and rapid. This was a case that I had been holding up under heroic doses of stimulants, and without them he began to sink rapidly. I considered the end certain and close, unless relieved of this condition. I tried all of the usual methods without giving the needed relief. I then used the injection which I commonly use in abdominal section: one ounce of salts, two ounces of glycerin, three ounces of warm water and thirty drops of turpentine. In thirty minutes the child began

passing liquid stools, accompanied with an immense quantity of gas, with very decided relief of alarming symptoms. The injection was repeated in a few hours for another rapid accumulation of gas, and with the same results. The child made a perfect recovery, although it was one of the worst cases I have ever seen. I have repeatedly used this injection since in milder cases for constipation and accumulation of fæces and gas, and it has seemed to be all that one could desire in its effects.

Dr. Lingrand, (*Le Concours Med.—Med. Brief.*) gives the following table, which will be found very convenient for making calculations, especially as it can be very readily learned :

January	3	July	4
February	3	August	3
March	5	September	3
April	5	October	3
May	6	November	3
June	3	December	4

To arrive at the two hundred and seventy days, start at the day which marks the end of menstruation and count backwards three months, then subtract the number of days indicated in the table opposite the month in which the catamenia ceased. For example, the 24th of July being the day indicated above, we begin by counting backwards: June 24, May 24, April 24—April 24 less four days (the number opposite the month of July in the table) = April 20 = two hundred and seventy days. To this may be added seven days, or better, from seven to seventeen days according as the fætal movements first perceived by the mother indicate a period more or less near the last day of menstruation. When February has twenty-nine days' as in the present year, and is included in the calculation, one day more should be subtracted.

Treatment of Hæmorrhoids.—Dr. J. Brindley James writes to the *Br. Med. Jour.*, that he has for some years been in the habit of treating hæmorrhoids by the simple process of applying calomel to them with the finger alone, and without a single exception he has done so with marked success, especially when inflammatory action was obvious in the hæmorrhoidal mass, characterized by mucus discharge and hæmorrhage, accompanied by most painful sensation of weight in the rectal region. All these symptoms under this simple influence were speedily relieved, with the still more important subsequent advantage of the patients' restoration to ease. "Only a few days ago," he writes, "a patient came to me suffering so acutely that he could neither sit nor walk freely, each movement of the body entailing exquisite pain. I have now seen him thoroughly enabled to pursue his usual occupations in happy immunity from these distressing symptoms."

Hereditary Transmission of Mutilations.—Dr. C. G. Lockwood, of New York, (*Bos. Med. and Surg. Jour.*) has recently published some interesting results of his experiments on the hereditary transmission of mutilations. White mice were selected on account of their rapid breeding, as they begin to breed when they are thirty days old and breed every thirty days. He bred them in-and-in for ninety-six generations, destroying all the sickly and defective ones, and in this way obtained a larger and finer animal than the original pair. His experiments in breeding their tails off were done by selecting a pair and putting them in a cage by themselves and clipping the tails of all of the young. When these were old enough to breed he selected a pair, and when they had young, clipped their tails. By contiuning this breeding, in the seventh generation he got some young without tails and finally got a perfect breed of tailless mice. By taking one with a tail and one without a tail and alternating the sexes in each generation, he finally again got a breed of all-tailed mice.—

For Rhus and Ivy Poisoning.—Says Dr. S. B. Stanley in *Times and Reg.* :—A. H., aged sixty years, a laborer, came to my office with an inflammation of the skin of the hands and fore-arms, extending to the middle of the arm. Beginning with lotions of lead-water I tried the most effective remedies for rhus poisoning, which careful inquiry into the patient's habits proved this to be, and was much chagrined to find that nothing gave relief to the itching and burning, or held in check the inflammation. As a *dernier ressort* a strong decoction of chestnut leaves (*Castanea Fagus*) was used, bathing the inflamed part every three or four hours. In twenty-four hours all the distressing symptoms had subsided, and the patient was discharged cured. Since using the above, which

was in August, 1888, I have prescribed the castanea treatment for all cases of rhus and ivy poisoning, and in all stages of the inflammation, with the single result in every case of perfect relief, from all symptoms in from twenty-four to seventy-two hours. I do not find this treatment in books on diseases of skin which I have read, and therefore offer it to the profession.

Lactic Acid as a Prophylactic in Gout.—Berenger-Feraud (*Jour. de Méd. de Paris*), recommends the employment of lactic acid to prevent the gouty attack. To six hundred grains of the acid is added sufficient water to make a solution of twenty teaspoonfuls, each teaspoonful will thus contain thirty grains. Every morning a teaspoonful of the solution is added to two or three glasses of sweetened water and drunk in the course of the day. At the end of twenty days the medication is suspended for ten or twelve days, and then resumed. The treatment should be continued for several years. The remedy is inoffensive, and does not interfere with the digestion or the nutrition.

For Laryngeal Phthisis.—In the treatment of this affection, Cozzolino (*Revista de Ciencias Médicas de Barcelona*) employs the following:

℞—Pulv. iodoform . . . 5.00 grammes.
Powd. phosph. calcium . 10.00 grammes.
Boric acid powd. . . 5.00 grammes.
Menthol. from 40 to 80 centigrammes. M.
Sig.—To be insufflated into the larynx, night and morning.

Strontium Lactate in Tænia.—Laborde, (*Jour. de Méd. de Paris*), has had excellent results in tænia with the usual dietary care from the following:

℞—Strontii Lact., ... 3 j.
Aquæ, ... 3 viij.
Glycerini, ... q. s.—M.
Sig.—Two teaspoonfuls every morning for five days.

A Means of Resuscitation of the Apparently Drowned.—Laborde says (*La France Méd.*) this means is to be used in conjunction with the ordinary methods. It consists in seizing the tongue, and making energetic, backward and forward movements, causing powerful action and excitation of the base of the tongue, and producing reflex respiratory action. This simple expedient has succeeded even after immersion of twenty-five minutes duration, and after the usual methods had failed.

Books and Pamphlets.

Transactions of the American Climatological Association, Vol. 8, 1891. Philadelphia: W. B. Saunders & Co., 913 Walnut St. Price $1.50 net. Toronto: Carveth & Co.

The above work has been received, and is fully up to the standard of the former volumes. Among the most noteworthy papers read at the 8th annual meeting of the Society, being "The Treatment of Catarrhal Inflammations," by Beverley Robinson, the well-known New York specialist, who treats of the subject in a most thorough and practical manner, and "The Pretubercular Condition," by Dr. Hilgard Tyndale. We can thoroughly recommend the work to those interested in climatology.

Materia Medica and Therapeutics.—By L. F. Warner, M.D., Attending Physician, St. Bartholomew's Dispensary, New York. Being volume 5 of the Students' Quiz Series. Pocket size, 224 pages, $1.00. Philadelphia: Lea Brothers & Co. 1892.

This will be found a useful little work for students. It is a compend based upon the works of some of the best know writers on the subject, as Brunton, Bartholow, Wood, Bruce, etc.

Genito-Urinary and Venereal Disdases; a Manual for Students and Practitioners. By Charles H. Chetwood, M.D. Philadelphia: Lea Bros. & Co. 178 pages, $100.

This is another of the "Quiz Compends." The complier has drawn his material from the works of Drs. Edward L. Keys, Ultzman, Sir Henry Thompson, and Ashurst.

Obstetrics, a Manual for Students and Practitioners. By Charles W. Hayt, M.D. Philadelphia: Lea Brothers & Co. 186 pages, $1.00.

This compend contains the most important matter on the subject in as condensed a form as possible. It is based upon Charpentier, Hirst, Playfair, Winckel and Lusk.

THE CANADA LANCET.

A MONTHLY JOURNAL OF

MEDICAL AND SURGICAL SCIENCE, CRITICISM AND NEWS.

Original Communications.

FLAP SPLITTING OPERATION FOR VENTRAL HERNIA.

BY H. MEEK, M.D., LONDON, ONT.

What I have to say on the subject of ventral hernia, will be principally with reference to that form of hernia occuring in cicatrix following abdominal section, and, as a forerunner, I shall report a case on which I operated some months ago.

In December, 1890, I removed uterine appendages from a patient suffering from chronic oöphoritis and prolapse of ovaries; abdominal walls were thick and fat, no drainage tube was used, recovery from operation was somewhat retarded by suppuration in track of a couple of sutures on left side. She was in hospital about three weeks after operation, and then went home, but did not move about much for some time. An abdominal belt was worn after wound healed, though not continuously; always wearing a bandage, however when not wearing a belt.

About following June, she noticed a bulging at lower end, and to left of cicatrix. The protrusion increased in size slowly. On my return from Europe in November last, she called on me, and on examination I found a ventral hernia in line of cicatrix, and to left of it about two and a half inches, in both linear and transverse diameters. The recti had separated along line of incision, for a distance of about two and a half inches. The left rectus appeared to be separated from median line a greater distance than right. The cicatrix had not widened out much. The mass could be pushed back into general peritoneal cavity, but could not be retained in place by any kind of support, owing to wide separation of recti muscles low down. After trying to keep protrusion back, by means of supporter for a time, and failing, I advised operation, to which the patient readily consented.

On January the 7th, 1892, after preparation as for laparotomy, I operated in the following way: I made linear incision in line of cicatrix down to sac; after carefully opening sac, adhesions were separated sufficiently to return contents, which were chiefly omental, into general cavity. I then clipped away superfluous sac, and with scissors split inner border of each rectus along whole length of separation to a depth of about half an inch, making an anterior, and posterior flap; then by means of a Tait perineum needle I passed a row of buried silk worm gut sutures in such a way as to separate the flaps, and bring together the broad raw surfaces of muscle thus made, taking care to have the wound perfectly dry and no clots between flaps thus brought together; then carefully drying superficial wound, I united skin and superficial fascia by a superficial row of silk worm gut sutures, thus closing the whole wound completely without drainage.

The operation was performed in as thoroughly an aseptic manner as possible. The dressings, and after-treatment were the same as after abdominal section for other purposes. Bowels were moved on the fourth day by salines and enema. Patient made a rapid recovery. Temperature never rising a half a degree above normal. I removed superficial sutures on eighth day, the wound having completely healed by first intention. The deep buried sutures were left to take care of themselves. Patient was up at the end of the third week with a thick solid wall in place of the hole which had marked the site of the hernial protrusion.

It is now nearly six months since the operation. I examined the patient but a short time since, and found the support as one would naturally expect a more firm and solid one than that which nature had originally given her.

Eddebohls in a paper published in the *American Journal of Obstetrics*, May, 1891, has pretty thoroughly ransacked the literature on the subject of ventral hernia. The literature on this subject up to that date was found to be rather scanty.

Very little is said on the subject in the ordinary text books on surgery, either general or special. Most of the literature being obtained from the published transactions of gynæcological societies. I suppose the scantiness of the literature on the subject may be accounted for by the fact that the vast

majority of cases met with, have followed abdominal section, and prior to the last ten or fifteen years, abdominal section was not a frequent operation.

Statistics as to the frequency of hernia following abdominal section are not easily obtained owing to the difficulty of following cases after operation. Eddebohls puts the frequency in his own cases at about one in thirteen where diastasis of muscles followed, aout one in twenty where protrusion followed. This corresponds pretty closely with statistics of my friend Mr. Christopher Martin, assistant to Prof. Lawson Tait, who puts it at about 5% where small hernia, and about 1% where large, bad hernia follows.

I think, taking the same class of cases, hernia will follow less frequently as the experience of the operator increases.

CAUSES.

Line of Incision.—Goodell (*American Syst. of Gynæcol.*, page 803) says: "I am by no means sure that the subsequent cicatrix would not be firmer, and less liable to thin out into a ventral hernia, were the recti muscles incised instead of being avoided."

Tait usually makes his incision down along side of linea alba opening sheath of rectus, but does not attach very great importance to this as a preventive.

I should think incision through lateral abdominal wall outside recti muscles, more likely to be followed by hernia than median incision.

Length of Incision.—Mr. Christopher Martin mentions long incision as a cause. Majority of European operators think length of incision has little to do with causation. I think where incision is carried very low down, hernia is more likely to follow.

Method of Suture.—Martin, of Berlin, and Tait, think method of suture of little importance. In Hospital Bichat, Paris, peritoneum fascia and skin are usually sutured by three separate rows of suture. Olshausen and Veit, of Berlin, use three rows of suture, and consider this method of suture of importance.

Many of the New York operators suture in this way. Wylie lays particular stress on getting fascia of recti united evenly by a separate row of buried sutures, and says that for the past three or four years, he has had no cases of ventral hernia following his abdominal sections.

There is no doubt about the importance of getting fascia evenly united, whether this is accomplished by one deep row of abdominal sutures or by a separate row of buried sutures. I think, too, where peritoneum is allowed to roll up between muscles close union is prevented, and you get a weaker wall.

Early removal of sutures is a cause of considerable importance. Sutures should be left in till the eighth day, or longer, if possible, and for this reason silk-worm gut being non-irritating is superior to silk as an abdominal suture.

In a poorly nourished patient on whom I did an exploratory incision, finding a retro peritonial sarcoma, I removed the abdominal sutures on the seventh day, the wound having apparently healed by first intention; twenty-four hours after the omentum had forced its way out, separating wound in nearly its whole length, and when examined was found as a thick mass under the dressings. I tied it off, and again closed wound, the patient luckily going on as if nothing had happened.

Anything interfering with primary union, as stitch hole and mural abcesses, which are more apt to occur in very fat abdominal walls, will leave a weak cicatrix, more liable to thin out into hernia. Where the drainage tube is left in for more than three or four days, a weak point in wall would follow.

All cases where pedicle is treated by fixation in abdominal wound, as in hysterectomy, extra peritoneal, fixation of stump, are particularly liable to be followed by hernia.

In a case where I assisted Dr. Eccles, a very large cyst of kidney was opened and drained, sac was fixed in wound, a discharging sinus continued for several months. A moderate sized hernia formed after sinus had completely closed.

Intestinal flatus following operation I consider the main cause in one of my cases. A patient suffering from salpingitis and pelvic peritonitis from whom I removed intensely adherent appendages, March 7th 1891, began to show symptoms of intestinal obstruction in less than forty-eight hours after operation, regurgitation from stomach, great distention of abdomen, rapid, weak pulse, running about 150 per minute; very restless. I first tried enema and salines with no effect. I then gave

her calomel grs. x, tr. belladonna, m. x, every two hours with nothing else by mouth, except sufficient water to get the dose down, stimulants and nutrient enemata being administered by rectum. She took eight doses before any effect; having vomited first dose, she had seventy grs. of calomel, and seventy minims of tr. belladonna in her stomach before bowels moved. After this they moved pretty freely for a time, but she made an excellent recovery; she continued to be troubled with flatulence, however. I have not seen her since she left hospital, but had a letter from her last winter stating that she had been quite well since, except a small lump in line of wound which, from description, I have no doubt is a ventral hernia.

Whether the neglect to wear an abdominal supporter in all cases for several months after operation, is of much importance as a cause, is a question of dispute. Most operators think it important. Wylie, however, thinks if proper union of wound is obtained, it is not necessary to wear an abdominal supporter after.

The symptoms from which ventral hernia cases suffer, are principally disturbances of digestive and nervous systems. Both strangulation and rupture may occur. Eddebohls, in a paper referred to, mentions five cases where death followed operation for relief of strangulated ventral hernia, and two other cases where recovery followed such operation. He also mentions three cases of rupture, so that the possibility of strangulation, though not great, should not be lost sight of.

In the treatment of cases, I think that if the hernia can be replaced, and kept in place by an easily-fitting truss, this, the palliative treatment, may be adopted. Where it cannot be kept in place in this way, or where the patient, from any cause, prefers operation to a truss, it should be operated on for radical cure.

With regard to method of operating in my case, I do not claim anything original with myself in the operation. When with Mr. Tait, last year, I saw him operate in this way, except that he united skin with continuous silk suture instead of silkworm gut. In every other particular the steps in operation were the same. So far as I know, this method of flap-splitting for ventral hernia, and bringing flaps together with buried silk-worm gut sutures, and closing the wound without drainage, is original with Tait.

I think the results are more satisfactory, recurrence being almost an impossibility after an operation done in this way than from any other method. Whether the sac should be opened or an extra-peritoneal operation performed as advocated by Eddebohls, will depend on whether the sac can be easily separated from its coverings or not. In the majority of cases I think it cannot. If the skin cicatrix is not spread out much, it need not be dissected out. After opening sac it is not necessary to break up all adhesions of contents, but just enough to get mass back into cavity. If the operation is performed aseptically, and precautions taken that nothing is left in wound to interfere with primary union, there will be no necessity for drainage, and the buried sutures will never cause any trouble.

Mr. Tait has operated for the radical cure of ventral hernia many times with no deaths, and without a single instance of recurrence of the hernia. In nearly every case he opens the sac. He never uses drainage of any kind, and considers the operation for the radical cure of ventral hernia an operation attended with scarcely any risk.

OCULAR PARALYSES FROM BASAL LESIONS—REPORTS OF CASES.*

BY D. J. GIBB WISHART, TORONTO.

Lecturer in Diseases of the Eye, Ear, Nose etc., Woman's Medical College. Assistant Demonstrator in Anatomy, Trinity Medical College, Toronto.

Case I.—J. A., æt. 56, builder, referred by Dr. Clarke, Jan., 1892, suffering from convergent strabismus. He presented the following history, for which I am indebted to Dr. Clarke:

"On the 20th of Feb., 1891, when coming out of an office door, he slipped on an icy step, falling ten to twelve feet, and alighting on the back of his head. When picked up was in full possession of all his faculties, but bleeding from the right ear and the nose. The bleeding was very profuse, a trustworthy bystander thought he must have bled a gallon. Bleeding continued in smaller quantity for three or four days, then gave place to a watery discharge, not copious, which lasted only a day or two. Headache and vomiting set in a few hours later,

*Read at the Ont. Medical Association, June, 1892.

and next morning convergent strabismus of right eye, accompanied by vertigo, was present.

"This condition was maintained for three weeks, when a stage of excitement, followed by wild delirium set in, with a temperature of 101-103 degrees, and persistant hiccough. Diplopia, and dimness of left eye vision was also noticed. Sensibility was gradually recovered, but with it set in an intense thirst, requiring great quantities of water to satisfy it; his attendants say five to six gallons daily. The urine reaction was normal.

"Convalescence soon set in, and about thirteen weeks from date of injury, he began to walk about. The strabismus of right eye and dimness of left eye vision persisting, with vertigo on closing right eye and difficulty in maintaining the erect position when walking. The memory was greatly impaired for many weeks after the injury, and is still defective for any new fact or idea."

On examining the patient, I found him a highly intelligent man, apparently in full possession of all his faculties; has always been hypermetropic. Right eye directed inwards to face the canthus. Vision right eye equals $\frac{2}{20}$, with plus 2 sph. equals $\frac{1}{8}$ and with plus 4 equals 2 sn.

The right eye is used altogether for vision by turning head to angle of 70 degrees; with the aid of a stick he walks pretty steadily; but if he closes right eye becomes dizzy and falls forward. Diplopia is not complained of.

All the movements of right eye appear to be normal, except that there is absolutely no movement outwards and the pupil is immobile. Ophthalmoscopic examination was impossible in right eye, but in left eye the fundus was normal. Ordered the proper reading glasses.

Saw patient again three months after in office; he says the vision has improved in left, and failed in right, but varies greatly and several pairs of spectacles are required.

Vision right equals $\frac{2}{100}$, with plus 1.25 equals $\frac{2}{40}$ Vision left equals $\frac{2}{50}$, with plus 1.25 equals $\frac{1}{8}$.

Operation under chloroform. The tendon of the rectus internal was carefully divided close to its insertion, without much attempt at loosening, but there was no movement of eye outwards. The rectus external was then cut and advanced by Argyle Robertson method, the retaining thread being quilted through the conjunctiva above and below the cornea to the internal side and then tied. The muscle was so much atrophied that the stitch gave away, and the thread had to be passed through the conjunctiva as far back over the muscle as possible. Correction to two mm. was obtained. In ten days made good recovery. A limited movement of eye outwards was noticed, with good movement in the other directions. The vertigo practically disappeared and the patient could walk without the aid a stick. Prescribed a prism of twelve degrees, base outwards, for right eye, combined with plus 1.25 in each eye, to be worn constantly.

Three weeks later, there was convergence of 4 mm., vertigo on closing left eye, but none with both eyes open; a tendency to fall forward in climbing a ladder, but good position of head and fairly steady gait.

Case II.—N. H. C., æt. 47, referred by Dr. Brock, January, 1892, presenting the following history. In October, 1891, fell from a window, sixteen feet, to the ground, alighting on the side and receiving some injuries to the leg and thigh. Was unconscious for some hours. There was no bruise, pain nor soreness about the head. Is myopic; has worn glasses twenty years. Noticed defect in vision shortly after the fall; could only see objects clearly when looking upwards. In the forward and downward directions the objects became mixed up, lines were crossed, etc. If one eye were closed the crossing of the lines disappeared, but the lines slanted downwards and outwards in either eye. On examination, vision right equal $\frac{1}{200}$ and 1 sn. with far range; vision left equal ditto. Cannot read when book is held touching his breast, as lines become crossed.

Ophthalmoscopically, beyond cupping of the disk, with a myopic crescent, and large deposit of pigment at the scleral margin, the fundus was normal. There were no signs of hæmorrhage. Was unable to test the condition of the muscles fully, but there was evident limitation in the movement inwards, downwards and outwards; diplopia being produced in all directions by a prism of two degrees.

Strychnine gr. $\frac{1}{100}$, with pot. iod. gr. 7½, t.i.d., was prescribed, and when seen four weeks after, the condition was greatly improved. I have been informed since, that he now experiences no trouble with his vision.

Case III.—D. K., æt. 17, referred in January,

1892, by Dr. Howitt. In November, 1891, was kicked on the forehead by a horse. A wound was inflicted on the left temple four inches in length, the bone being exposed and supposedly fractured. A few minutes after the left eye vision was noticed to be dull, and has remained so ever since. Vision right equals 15.15 and 1 sn.; vision left equals 5.200 and 12 sn., at three inches. Unimproved by glasses. The action of the external muscles is normal. Ophthalmoscopically, the pupillary action is sluggish, media clear, optic papilla pale, vessels are apparently unaffected, no hæmorrhages. Prescribed strychnine gr. 1.50, t.i.d. Have not seen case since.

These cases are interesting, because they exemplify what a variety of eye lesion may follow injuries to the bone or membranes of the base of the skull, gained by *contre coup* due to a blow on the head or other part of the body.

In Case I. the lesion at the base was sufficient to cause profuse hæmorrhage from the ear and nose, paralysis of the sixth nerve, irritation of the fourth ventricle as shown by the hydruria, an acute meningitis, and some weakness of the ciliary nerves. The first symptoms can be due only to a fracture of the temporal, probably of its petrous portion, for no stretching of the tympanic blood-vessels sufficient to cause profuse hæmorrhage, is possible without fracture of the bony arch. The sixth nerve may have been caught at its origin, in its course, or in the sphenoidal fissure as it enters the orbit. The first of these is the more probable, on account of the injury to the fourth ventricle, shown by the third symptom, and its close proximity to the petrous portion of the temporal.

The immobility of the pupil is difficult of explanation, as it is only associated with a limitation in the accommodation. Perhaps some fibres of the fifth, in or about the caserian ganglion, have been injured or pressed upon in the lesion to the petrous bone, upon the extremity of which the ganglion rests.

The lesion in Case II. was, I believe, wholly in connection with the external ocular muscles, the symptoms all being those which we find in connection with some muscular weakness interfering with full association in the movements of the two eyes, which produced a diplopia when the eyes were directed forwards or downwards, and hence a blurring in the type when he attempted to read

Homonymous diplopia, associated with a tilting of the images outwards and downwards, is found following paralysis of the superior oblique muscles. The burden of the lesion seems to lie upon the superior oblique muscles, but there is evident weakness also in the action of the recti muscles, especially of the internal, external and inferior recti. Paresis of these muscles would be due to some injury to the trochlear and to the oculo-motor nerves, and as the two eyes in this case were equally affected, we are forced to look to the brain origins of these nerves for the seat of the lesion, as otherwise, if the lesion had occurred in any part of the tracts more nearly adjacent to the eyeballs, there would undoubtedly have been more extensive damage, whereas the symptoms were comparatively slight.

The nuclei of these nerves lie in the floor of the sylvian aqueduct, close together, just beneath the corpora quadrigemina, and it seems reasonable to suppose that the fall must have caused a slight effusion or hæmorrhage in this locality, which pressed upon the nerves and caused the paretic condition.

In Case III. the pathology is difficult, for while it is no uncommon thing for loss of sight to follow a blow upon the head, especially if accompanied by fracture, still, opportunities for *post-mortem* examinations in recent cases are rare. In this case we have a pronounced amblyopia, with no optic changes to account for it, and the amblyopia is evidently due to some lesion of the optic nerve alone, for it is unaccompanied by paresis of the external and internal muscles; nor had the amblyopia been followed at the time of examination by atrophy of the optic disk, although I believe that such a change would now be found ophthalmoscopically. Blows on the head produce atrophies. This has been noted after injuries in the neighborhood of the supra-orbital foramen, and in two cases mentioned by Schweinitz, when there was no fracture of the orbital plates. Meyer speaks of this form of amblyopia as due to concussion, but cannot explain the *modus operandi*. Schweinitz says that traumatic amblyopia may occur after severe injuries to the head, especially in the occipital region.

The loss of sight was so immediate after the blow, that it would almost seem as if the force of the blow had caused direct lesion of the nerve

between the chiasm and the eye — perhaps in the optic foramen—such as a fracture of the base at that point, wounding the nerve tract.

These cases are, I believe, of sufficient interest to justify being put on record, and I have offered them in the hope that, by this means, more light may be thrown upon the exact location of the injuries.

Reports of Societies.

COLLEGE OF PHYSICIANS AND SURGEONS OF ONTARIO.

ANNUAL MEETING OF THE MEDICAL COUNCIL.

(Continued from October number.)

FIFTH DAY.

Saturday, June 18th, 1892, 10 a.m.

The Medical Council met in accordance with motion of adjournment, President in the chair.

Registrar called the roll. All present, excepting Sir James Grant.

Minutes of last meeting read and confirmed.

Dr. Geikie moved, seconded by Dr. Bergin, that the usual rule regarding notices of motion be suspended for the remainder of the session. Carried.

Moved by Dr. Geikie, seconded by Dr. Miller, that the Registrar be, and is hereby instructed, not to issue any more annual certificates to members of the profession on receipt of the annual dues unless they specially desire it, but give a receipt only. My entire object in making this motion is to remove a sentimental objection on the part of a great many of the profession; an objection which has been utilized by those opposed to the Council with great effect. I know absolutely that this is true. People may say it is foolish to attach any importance to a sentiment. I know I attach so much importance to the certificates that I threw my certificate into the waste basket; and the Council has no better friend than I. I would fight for it by night and day, week in and week out, month in and month out (applause).

It has been said that the Registrar may be compelled under the Act to issue new certificates; he can issue them where they are wanted, but I think it is better to adopt another policy and issue receipts only, and give certificates to any who wish to have them. The feeling is that an annual certificate is equivalent to a sort of dog tag, or a sort of a metallic plate with the number.

Dr Bergin—I submit this is out of order. We can not substitute a motion of this Council for a statutory enactment.

Dr. Geikie—I make the motion at any rate, and I think it is in order. Whatever conserves to the interests of this Council, and tends to preserve its vitality, and to draw the members of the profession around it in its defence, and for its protection is in order and must be in order.

The President—I think the better way is to refer this to the Legislative Committee.

Dr. Geikie—How can the Registrar then receive instructions?

The President—Perhaps what you have said would be sufficient for the purpose.

Dr. Ruttan—I beg to move, seconded by Dr Harris, that whereas a number of offices and other rooms remain unoccupied and not rented in the college building that this Council instruct the Property Committee, subject to the approval and sanction of the Registrar, to rent all the rooms and offices forthwith to the best advantage obtainable, and that the property be insured in a responsible insurance company, at a rate most advantageous to the college.

In support of this motion, I would say these rooms are now unoccupied, and we had better rent them for something, and that forthwith; in a very short while there will be brought into the market a large number of offices connected with three buildings near here which are not yet finished, but they will be when finished thrown on the market, and we will be in a worse position then than now, and we had better secure tenants while we have the opportunity. Carried.

Dr. Campbell—I move, seconded by Dr. Bray, that the solicitor be instructed to prepare a form of contract with the *Ontario Medical Journal* Publishing Co., based upon the resolution adopted by this Council, in which the company shall agree to the following:—To prepare under the supervision of the Registrar, and publish a full stenographic report, etc.

Dr. Campbell.—I move, seconded by Dr. Harris, that the solicitor be instructed to prepare a form of contract with the *Ontario Medical Journal* Publishing Company, based upon the resolution adopted by this Council, in which the company shall agree to the following:

To prepare under the supervision of the Registrar, and publish a full stenographic report of the proceedings of the Council, and send a copy to each registered physician, and supply the Council with two hundred additional copies.

To publish the College Announcement, sending one copy to each registered practitioner, and two hundred extra copies to the Council.

To publish in their *Journal* all advertisements of the Council.

To give satisfactory guarantee for the performance of their agreement. Carried.

Moved by Dr. Bray, seconded by Dr. Bergin,

that Thomas Wasson be appointed public prosecutor.

The Registrar read a letter from Thomas Wasson, and testimonials as to ability.

The President—While there is a provision that fines shall be retained by the Council, there is no provision if the fines are not sufficient to pay the expenses what shall be done.

Dr. Bray—The Council would have to pay the expenses. That is what it did before. Carried.

COMMUNICATIONS.

Dr. Pyne read a letter from Dr. F. C. Mewburn, which was referred to the Discipline Committee.

Dr. Bergin moved, seconded by Dr. Johnson, that Dr. H. H. Wright, Treasurer, and the Registrar, be a committee to meet once a month to consider the financial affairs of the Council, make suggestions to the Council as to the best and most feasible means of economy and retrenchment, and to report to the Council at the annual meeting, without any expense to the Council.

I move this motion, and suggest the name of Dr. Wright as that of the gentleman to be associated with the Treasurer and Registrar, because he is warden of this building, and an old member of the Council who takes great interest in our affairs, and who will give his time once a month to a conference with the Treasurer and Registrar, as to the best means of economy and lessening the expenditure to the Council; and give a report to the Council in addition to that which the Treasurer usually makes. Of course they will be advising with the Property Committee as to the best means of leasing the property, which is now bringing us no income of any kind whatever; and it will lessen very much the responsibilites of the Registrar, to have such advice from these gentleman and the Property Committee. Carried.

Dr. Bergin moved, seconded by Dr. Johnson, that the address of the President at the opening of this Council be published in pamphlet form and distributed to every member of the profession and to the members of the Legislature of Ontario. Carried.

Dr. Harris presented the third and final report of the Education Committee, and moved, seconded by Dr. Day, that the report be received. Carried.

Moved by Dr. Day, seconded by Dr. Harris, that the report be referred to the Committe of the Whole. Carried.

Dr. Geikie in the chair.

The report was read clause by clause.

In reference to clause No. 7, Dr. Harris made the following explanation: I have an estimate by which it is found we will give better satisfaction to the examiners and still save a considerable sum. Each examiner gets $20 for being present; it is on the same principle as the examiner's fees are fixed at the Toronto and Trinity Universities, it is a retainer for the examination. There are twelve examiners, and averaging them at 150 papers it would make $115 each. The Homœpathic examiner would receive about $40. He would receive much less than the other examiners because he has not so much to do as the others; that would make a total of $1,420; expenses about $300, making a total of $1,720.

The examinations this year amounted to $2,289 as against $1,720, making a gain to us of $469, the amount saved; and the examiners would be better satisfied with this arrangement, and it ought to be a more satisfactory arrangement with the Council, for the man is paid really for the work he does.

Dr. Rosebrugh—If it is not obligatory that he should be present at the examination will it be necessary for him to be there the ten days?

Dr. Harris—No. That is taken into considertion.

Dr. Harris moved the adoption of this clause of the report. Carried.

Dr. Harris—In explanation of clause No. 8, said the communication asked what we meant by the clause in our report which reads, "Each candidate will be required to prove he has carefully dissected the whole adult human body." I took advice of Dr. Primrose himself and Dr. Richardson. Dr. Richardson, one of the most able anatomists, I suppose, in the Dominion, made the following remarks before the committee: "The study of anatomy is best secured from requiring from the first year students a thorough knowledge of the osseous system, the dissection of the abdomen and thorax and upper extremities, leaving the remainder for the second year; I think it would be preferable not to insist on the dissection of both sides, because I believe it could not be done with that care and reading which are requisite." I think Dr. Richardson's words should have a great deal of weight with this Council.

Dr. Fowler—I regret very much the committee should have thought fit to diminish the amount of dissection required from students of medicine. I think it is one of the most important things connected with the study of medicine, required from our students; and I may mention that this is not the direction that they are going in Germany and in other countries where advanced views are held in regard to the study of medicine. In Germany I well know that the students in the first year are required to make themselves perfect in the dissection of the muscles of the human body. It is of great importance that this should be first attended to, because when they commence dissection first they are in a measure unable properly to dissect the finer structures of the body; and it takes a year, at all events, before they are able to

dissect properly the nerves and the blood-vessels. Students will never have an opportunity in future life for dissecting, and I think the more attention paid to dissection during their course of study the better; and I think we should still maintain that students should dissect the whole human body twice, or, at all events, one side twice. I think it would be a backward step for this Council to take, to merely insist on students dissecting one-half the body once.

Dr. Geikie—This paragraph refers to the first year only.

Dr. Johnson—It says the remainder for the second year.

Dr. Williams—I regret I was not able to be present at the meeting this morning; the fault, however, was not mine, for I had no knowledge that there was to be a meeting, and therefore, I couldn't be present. I do not know that this matter would have been any different if I had been there; but I could at least point out, which I will do now, that it does not harmonize at all with our curriculum. We are pointing out what a student shall take in his first year, and what he shall take in his second year. As a matter of fact, we have no means of controlling what he shall take in his first year. We do not hold an annual examination; and when we say you shall do so and so in the first year, and do the other part in the second year, we are not in a position to control it at all. We do not take him up for examination until the end of the second year. How are we going to know, or what do we care, where he divides that work in the middle, as long as he gives us that whole work complete at his primary examination at the end of the second year. That is all we can control. As a matter of fact we have no control whatever how he shall divide what we shall do in the first or second year. The suggestion of Dr. Richardson was based entirely upon the curriculum of the Toronto University, where they hold an examination each year, and in that case they are in a position to say you must take so and so the first year, and we will examine you on that; but we are not in a position to do that because we don't hold an annual examination. At the end of the second year they can say we will examine you on such additional quantities in anatomy for the second year. We cannot do that now; we have to take up the whole subject the second year that we require in our examination, so that that does not harmonize with the curriculum at all; and I think it ought to be amended to bring it into harmony with our curriculum; according to that it would appear as though we intended to hold annual examinations—that is, for the first year and second year and so on, but we have no such arrangement in our annual Announcement, and I think this should be brought into harmony with that. I agree somewhat with Dr. Fowler, that just a little change in the wording, so as to allow it to be applicable to one side of the body, with the thorax and abdomen, would have covered the whole matter much better than the alteration that has been made, as I think this is throwing the matter entirely out of harmony with our Announcement.

Dr. Harris—I believe Dr. Williams stated this was taken up this morning in his absence, and that he had not notice of the meeting. He had notice of a meeting at 9 o'clock; and we waited, I think, half an hour before we went on with the committee meeting. I might also say this was not taken up this morning; it was arranged yesterday afternoon at the meeting, and we had Dr. Richardson here. I made a slight mistake in one word,—it should have said "it is recommended," not "required," as it would read better, I think; but I don't care how you word it, it is merely a suggestion.

Dr. Williams—At the meeting yesterday afternoon, as a matter of fact, I believe there was nothing decided on this matter; we simply made notes of what Dr. Richardson's views were, and certain other notes, and agreed when a meeting took place we should then harmonize this recommendation as far as we could with our Announcement. I don't know whether that was taken up this morning, but certainly there was a meeting held this morning, and I had no notice of that meeting, and therefore I was not present.

Dr. Britton—I cannot say I can fall in the line with the thoughts expressed by our learned President in this matter. I think it would be a very foolish thing to start any student out in the direction of doing such rough, careless dissection, as to dissect the first year for the muscles alone; in fact, among students in their school it is a by-word to talk of a certain student who is a careless dissecter, as one who is "going for the bone"; it would be about the next step to that to go for the muscles. There are two advantages that a student derives from dissection; the first is a knowledge of the topography, and the second is the training of his mind and the muscles of his hand and eye in the preparation for surgical work; it would be a great calamity, I think, that we should arrange it in such a way during the first year that a student would simply dissect, looking for certain structures, without taking into consideration everything that lies before him. We are assured it is an utter impossibility to secure material enough to enable students during the two years to dissect the whole body twice. I would move that clause 6 be interpreted by this committee to mean dissection of the one side of the head, neck, arm, and leg, together with the thorax and abdomen, any time within the two years.

Dr. Bray—I think the object of this Council is to make the study of medicine in all its branches more practical; and I do think anatomy is the

foundation of the study of medicine; and I think if two years is not enough we should charge our curriculum and have them come up for their primary examination at the end of three years. I do not think you can get too much practical anatomy. It is a subject that they all dread at their examinations; and if that time is not sufficient for them to get it up in let the examination be held the third year instead of the second; but I quite agree with what Dr. Williams and Dr. Fowler have said, and I do not propose a first year student should on the head and neck, but he can take the arm or leg.

Dr. Britton—That is nearly as hard to do well. It takes nearly as long.

Dr. Bray—If you give him only one side he will not be perfect. He won't know how to do each. He will only begin to be proficient when he goes over it again.

Dr. Britton—It takes two months to dissect the head and neck.

Dr. Bray—That proves that two years is too short a time for a student to work up his anatomy. I was not there when this matter came up before the Committee, if it came up before them, and consequently I am in a position, although a member of the Committee, to take exception to it. I do not want to make it too hard on students nor on those who have to procure the subject, but at the same time, I want the study of anatomy to be thorough and practical.

Dr. Thorburn—I think there is rather a misunderstanding than any real dieffrence between the different members of the Council here about the importance of anatomy. We all claim it is of importance, the most important study in which a student has to be engaged, but we contend it is impossible to do the whole body thoroughly within a certain limited time; and therefore we limit what they do go over they shall know thoroughly. I have been connected with anatomy more or less for many years, and I know, and the experience of all teachers of anatomy is, that a student who hurries up and dissects and gets through too much, and likes to talk about it, is generally a very indifferent man; but the man who will work constantly and carefully is one that will learn his anatomy and who will keep that knowledge in his brain; therefore I support the amendment of Dr. Britton in that respect. Our instructions should be that one half of the head and neck and not less than an extremity,—a lower extremity, and the abdomen and thorax.

Dr. Harris—I think that Dr. Britton's recommendation is very like the report.

Dr. Britton—It is, except it may be awkward, that certain students may have the arm to dissect the first year and the leg the next year; it might be more satisfactorily arranged that John Brown, for instance, would have a leg and Henry James an arm, whereas Brown might be first year and James second year; we say here the upper extremity the first year and the lower extremity the second year, but I think it would be far easier for the demonstrator in anatomy to arrange the distribution of his subjects if we do not limit him down.

Dr. Williams—I will move that the clause read be struck out.

Dr. Harris—If you strike that clause out I presume that you intend to leave the old clause in the Announcement as it is.

Dr. Williams—If that is struck out then we will fall back on the clause in the curriculum; and then, if we are so disposed, we can amend the clause in the curriculum. If you strike this clause out then what you have is the clause in the curriculum; and when you are back to that if you think that clause should be amended you can then move to amend it. But I believe the clause in the curriculum is better than that recommended.

Dr. Harris—Students and teachers cannot understand it.

Dr. Williams—We can modify the clause so that they can understand it. When we strike that clause out we can make a motion to amend clause 6 in the curriculum.

Dr. Williams moved that the word "whole" be struck out of clause 6, page 14, Medical Curriculum. Carried.

Dr. Henry moves that the name of Dr. McKinnon, of Guelph, be substituted for the name given in the report (Dr. Small), an examiner in Materia Medica and pharmacy.

Dr. Williams—If you catch the run of this report you will see they are retaining all the old examiners. I do not understand there are any new ones made.

Dr. Harris—I may say also that Dr. A. A. McDonald is put on in Midwifery, instead of Dr. W. J. Wilson; there are two changes made.

Dr. Williams—The Council ought to know whether the changes are made for cause. If you put the bulk of the examiners back, the inference will be if you drop two men out it is for cause, but if you are making a general change then all men stand alike, but you should remember when you drop out a couple of men, and retain others that have been on equally as long, and some perhaps longer, it looks as though it was for cause.

Dr. Bergin—I do not think it is fair to the committee to say, that because we substitute two new names in the place of two who have been examiners, that we do so because we have lost any confidence in them or anything of that kind; we must not lose sight of the fact that a large number of these examiners (all but five) are appointed by medical schools, and consequently they nearly all come from Toronto or its near neighborhood; and the eastern part of Ontario

thinks, at all events, that it ought once in a while to have a representative upon the Examining Board. The Homœopathic representatives and the representatives from the eastern portion of Ontario, fixed upon Dr. Small as a very able man, and one who would be competent to examine in more than one branch, and I think that we ought not to be deprived of proper representation upon that Board when we ask for it; and it is for that reason, not because we have any doubt of Dr. McKinnon's ability, not because we believe Dr, McKinnon did not examine fairly, and properly, and ably, because we believe he did; but we did think that in accordance with the rule of the Council that has been followed ever since I have been in it, and was the rule before I came to it, that two years, unless the Council thought proper to retain a man for special reasons longer, should be the limit of any man's place upon the Board of Examiners. I need not say that I sympathize strongly with the feeling expressed in the Council, not only this year, but during several years past, that when we had a Board of Examiners thoroughly competent, that we ought to extend tne period of their position as examiners during the entire term of the Council, five years; but we have no power to do that, and although we appoint these examiners a second year, we have to do it as we do with every other officer, make the appointment yearly.

Dr. Bray—With some of Dr. Bergin's remarks I agree, and with others I disagree What I think should be and has been the practice for this Council is to put on the best men they can get, no matter where they come from. If this can be done, I think it is perfectly right to give all portions of the Provinces representation But I take exception to Dr. Williams' remarks, that if we change one examiner we have to change the whole. I do not think that is consistent; and I don't think it would be in the interests of the Council to do so, for the reason that if you take off all the examiners you have an entirely new Board, and I think that would be very unadvisable to do, because they would be all new to the work; it is well to have some men on who are accustomed to the work. And if it was the custom to remove the whole Board every time we made a change, then I think there would be disorder and confusion. It is true that when a man if a good examiner he should be retained as long as we can retain him; and I don't think that Dr. McKinnon's name or the name of the other gentleman that was left off, was eft off for cause, but because we thought there were other men just as good; and instead of removing the whole Board of Examiners, we take off one or two, or two or three each year. I think that is the idea, and I think the best idea. I don't think Dr. Williams himself would think it a good plan to remove the whole Board and put on new men.

Dr. Williams—Dr. Bray misunderstands my remarks entirely. I didn't suggest that the whole Board be changed, but the fact occurred to me that probably Dr. McKinnon was not on that Board the longest of any man who was there and thought possibly if you were going to change because a man had been on for some time, and as Dr. Bergin says the change should be made in two years, then it looks reasonable you would start with the man that had been on the longest time; and if because one man had been on for three years it was advisable to change him, perhaps the same rule would apply to each other man who had been on three years. I fully agree with the idea that the longer a man is an examiner the better examiner he becomes; but while that is true, that has not been the rule of the Council. It has been looked upon as an honor to a medical man to have an appointment as an examiner; and it has been passed around, as Dr. Bergin says, about once in two years. If that rule is followed I have no special objection to it at all, but I don't think it looks right without an explanation that one man or two should be dropped out and others that have been on as long or longer not interfered with. It would have the appearance without an explanation that there might be cause. That was why I asked that the explanation should be given that it was not for cause but in the ordinary workings of the Council.

Dr. Harris—I wish to say in regard to the other chang, that he was not dropped out for cause at all. I believe the committee appreciates his work well, and so do the whole Council, but he has been there two years; and Dr. Orr did not express any special desire to have him retained. Dr. Orr would like to have seen him there, I have no doubt in the world, but he didn't ask the committee, as Dr. Johnson did. Dr. Johnson has a large constituency, and it was his desire to have a little change made and consequently the committee came to that conclusion. There was no fault found with Dr. Wilson any more than Dr. McKinnon.

Dr. Orr—With regard to some of the remarks dropped from the lips of Dr. Harris, I think I should be unfaithful to the duties I owe to my constituency if I didn't say I used my best endeavor to secure the replacing of Dr. Wilson's name on the list of examiners.

Dr. Harris—You did not come into the committee room as Dr. Johnson did.

Dr. Orr—I have not been in the habit in the past and I hope I shall not in the future, be guilty of interfering with any committee I am not placed upon. However I am pleased to hear the committee state that those gentlemen who have been replaced on the Board by others have not been replaced on account of any of their work not being good and quite satisfactory to this Council. I should have liked very much to have seen the name of Dr.

Wilson, of Richmond Hill, again placed upon the Board of Examiners. Dr. Johnson, who represents a very much larger constituency than I do, and who for some time, I think not since he has been in this Council, has not had the name of an examiner upon that Board, has named one now in the place of Dr. Wilson; owing to such being the case, though with much regret, I all owed the name of Wilson to be withdrawn.

Dr. Henry—After having heard the explanations that have been made I beg to withdraw my motion.

After the reading of the report Dr. Harris said, I have another clause that may be inserted in it, it is that the committee would respectively draw the attention of the Ontario Government to the fact that the supply of anatomical material is not adequate to meet the requirements of this Council in the study of anatomy and surgery; and that the defect would be largely if not entirely met by placing provincial lunatic asylums and all public institutions where persons are maintained at public cost fully under the provisions of the Anatomy Act.

On a motion to add that this clause being put it was declared carried.

The committee arose. President in the chair.

Dr. Britton presented the report of the committee of the whole that the Education Committee's report be passed and amended.

Moved by Dr. Bray, seconded by Dr. Harris, that the report be adopted as a whole. Carried.

Moved by Dr. Bergin, seconded by Dr. Logan, that Drs. Fowler, Campbell and Johnson compose the Executive Committee for the ensuing year. Carried.

Moved by Dr. Bergin, seconded by Dr. Henry, that the Legislature be asked to amend paragraph, firstly, of section 6, by adding the following words thereto, "that all such members shall be elected by the medical graduates of the said colleges and bodies duly registered under this Act, and shall be elected by ballot in the manner provided for the election of members resident in the several territorial divisions," and that this resolution be referred to Dr. Williams' committee.

Dr. Moore—Before that resolution is put I wish to say that I think we are making a mistake to pass any such resolution as that. What right has the Council to dictate to Toronto University, Trinity University, Queen's University, or any other university, how they shall elect their officers. We might just as well attempt to dictate to them how they should elect the members of the Council or the Board of Trustees, as to say how they should elect any officer of their institution. They have a right by this Act to elect a representative on this Council, and that they obtained many years ago; and if it had not been for the schools and universities combining at that time this Council, as has been clearly shown, would never have been in existence. And the regular profession only came in to preserve the balance of power between the schools, as has been justly set forth by the President. I think it is almost impudent to place such a resolution upon our record.

Dr. Geikie—It is waste time to put in such a resolution.

Dr. Harris—I wish to endorse what Dr. Moore said. And further I do not take much stock in it. I think it is probably an electioneering dodge.

Dr. Bergin—I ask this gentleman to withdraw that charge. He has no right to make such a charge to anybody as against anbody. I make this resolution in good faith. I believe it is a necessity for this Council to pass that resolution and to have such a change made by the Legislature. And I say it is not dictating to the universities as to how they shall elect their representative, but it is an expression of opinion on the part of the Council that the medical graduates of the universities shall have a voice and a vote each year in the selection of the representative of the University; and if I understand the way that the universities under this, if it should become law, would do it, would be by calling together a meeting of their alumni associations; and these alumni associations would recommend that such a gentleman should be elected by the members of the association; and no doubt they would carry out the direction of that association. All the same they would be elected,—

The President—I see one difficulty in this motion in that it seems to disfranchise some universities which have no medical graduates.

Dr. Bergin—Then they could not elect anybody.

Dr. Britton—So far as my own university is concerned, that of Toronto, I think the graduates throughout the country are perfectly well satisfied. Their views are expressed and their intentions carried out in a just and honorable way by those whom they have elected to their Senate. I think the University of Toronto knows fairly well what is its own business. I am not speaking from personal motives; I don't know that I shall ever be here again after my term is expired; it may be the policy of the Toronto University to let these honors go around; but whoever will be sent here I am perfectly satisfied that the University will use its best judgment, and it has at least as good common sense as this Council.

Dr. Geikie—I object entirely to this. I put a good deal of faith in Dr. Bergin in a good many respects; and I had so much faith I did not think he would recommend anything that is not capable of what you may call full justification. He would rob the Universities of Toronto, Queen's and Trinity, of their university rights to send members here; he would rob such a corporation as ours, which by a ballot vote sends me here; and

as Dr. Britton says in his case they may perhaps next time send somebody else here, it may be so in mine. It would rob these bodies of all rights and privileges and would seek to confer the rights on a moiety of the graduates to the alumni association, a mere handful of people who could gather in the neighborhood of some city and elect somebody to represent themselves, disfranchising the universities; and not only disfranchising the universities but actually having themselves a double right because every one of these gentlemen as a practitioner has a vote in his territorial division now.

Dr. Bergin—But he has not in his university.

Dr. Geikie—I do not believe in robbing the universities, and I do not believe in putting a double vote into anybody's hands. The universities are entitled here to representation; and more than that, the very instant that such a suggestion as the one in this resolution would come before the Legislature that very moment every university and every body in the province would just go down to the Legislature and say: "Gentlemen, we protest against it;" and it would be simply no where. The fact is that if every one of these bodies did so they would blow it, I was going to say, to Jericho, and perhaps a great many miles further.

Dr. Moore—Just to correct one statement Dr. Bergin made, that it was to give an opportunity to the medical men who were graduates of universities to have a voice in the matter. They have a voice now. The University Council of Queen's is elected by the graduates; every medical graduate, if he choses to vote and pay his one dollar, has a right to and does vote; and they vote for the members of the University Council, and the Council have selected me; therefore I say every medical graduate in Queen's University has a right to vote for or against the representative of Queen's University.

Dr. Day—The motion is perfectly harmless. It does not amount to anything. Nobody need get hurt at it a bit. In the first place I may say I don't agree with it; I am not in accord with it at all, and for this reason, that I have had some experience in it. It is admitted now that if the Legislature should make that change Ottawa and Regiopolis College would not be able to elect representatives; that they are off the list, would kill it before the Legislature the very moment it was mentioned. The Legislation before last that we went to the Local House on we tried then to have certain changes made in that very direction; I was anxious for it then and I am anxious for it now to a further extent, but the very moment we mentioned that matter we were simply told we need not mention anything of the kind, because the Government would not consent to it for a moment; that these colleges had rights that had been given to them long ago, and they really had become vested rights; that they had given away privileges for the sake of being represented on this Council, and the Government would not, by any means, interfere with that right in any way whatever. And if you go there now attempting to pass any legislation which will cut off Regiopolis, or any other University that has representation here now, you will simply get a storm about your ears that will astonish you.

Dr. Bergin—It is not the intention to take away any right from any university or any college. The question has been mooted over and over again; and the motion has been made that it be referred to the Legislation Committee. It is worth consideration; and the committee may possibly find some way of even carrying out this resolution, making such an alteration or suggesting such an alteration to the Legislation as would be approved of by the Legislature. I, for one, would not, on any account, deprive any Council or school of any of its powers or any of its privileges. We suggested merely an alteration in the way that the representatives of the schools shall be elected, because we believe it will commend itself to the good sense of the profession throughout the country.

Dr. Henry—I do not see where the objection comes in. As I understand the mode in which the representatives on this Council are appointed, the graduates of the various universities elect senators to the universities, and each of those bodies appoints a representative to this Council. I think if the graduates were to elect the members to this Council direct, it would be more in touch with the profession and the profession would be much better pleased.

Dr. Thorburn—I think if that resolution were passed the effect would be to do away with the Council of the College of Physicians and Surgeons, and these various bodies would then confer the degrees themselves.

Dr. Rogers—I brought a resolution bearing on this matter before the Council last night. The resolution which has been moved by Dr. Bergin and referred to the Legislation Committee bears very strongly on it; and I entirely approve of this resolution being sent to the Legislation Committee. I think the idea which Dr. Bergin has is that we are not in a position to dictate; we have to consider this, that at the next session of the Legislature, in all probability, there will be a bill brought by some malcontent of the medical profession to the Legislature, and it is for us to consider what is the best way to stop the matter being brought there; or, if they do bring it there, to formulate a scheme that will meet their objections and will not be out of harmony with the ideas of the Council. The whole idea of this is to preserve our Council from total annihilation.

Dr. Bergin—There is no danger of its annihilation.

Dr. Campbell—I simply wish to say it seems to me the less the Council does in the way of active interference with active legislation the better for it; and in a matter of this kind I think it is rather out of place for the Council to make any suggestions to any quarter as to interfering with those rights which corporate bodies have and which they surrendered in order to become a part of this body. It is a matter that should be left to these corporations, and I don't think this Council should interfere with it; and in any case it strikes me the better plan is to let the matter drop. Those vested rights that corporations have should not be interfered with at all.

Dr. Bergin—I don't think any one proposes to interfere with their rights; the first step to be taken in this matter, if any were taken, would be to consult with the senates of the universities. But that we may get through the business before us to-day, I withdraw my motion.

Dr. Miller—Universities would stand in a very much better position if they would be quite satisfied to send their representatives here without interfering in the election of territorial representatives; if the universities were to give a pledge that in the future they would entirely abstain from such interferences.

The President—There is nothing before the chair.

Dr. Miller—If there is nothing before the chair, I beg to move that this Council be now adjourned; and speaking to that resolution I would say, since the universities are so very sensitive as to their rights, that they should respect the rights of other people; and if they would give a pledge that they should be satisfied with the election of their own representatives, or the appointment of their own representatives to this Council, and would entirely abstain from interfering in the election of the territorial representatives, they would have less opposition in this Council.

Dr. Rosebrugh moved that the Council now adjourn for fifteen minutes.

The Council resumed its session, the President in the chair.

Moved by Dr. Bray, seconded by Dr. Henry, that Alexander Downey, chartered stenographic reporter, be appointed the official stenographer of this Council for the ensuing year.

I make this motion for the reason the Discipline Committee will be called on to meet on two cases in the near future, and it is well to have an official stenographer; Mr. Downey acted as stenographer for the Discipline Committee on previous investigations, and did his work very well indeed; and if we have an official stenographer he will be at our disposal whenever we call upon him. Carried.

Dr. Johnson—I do not know whether I am in order or not, but if I am, I would like to emphasize a matter that has been talked over in this Council very freely at this meeting, and which I think, perhaps, we all understand, but I want to go out to the territorials with no uncertain sound. I moved at the very beginning of this session of the Council, to have the fees of those members who were not in arrears, struck off for the coming year, but that was ruled out of order.

I want now to draw your attention to the fact, that in placing practitioners, who are registered at present under a two dollar fee, and giving them a certificate, or a receipt for payment of that fee, we are not placing them in a derogatory position; we are not licensing them as if they were dogs or hucksters, which latter was the word, I believe, principally used; but we are putting them on a footing with one of the leading educational societies of the country, the Law Society of Upper Canada. When the Law Society undertook this matter they put it in this form of notice, that every lawyer, whether in arrears or not, receives when his fee is due. We understand it is upon the basis of the practice of the Law Society that the clause referring to the payment of the fees and the removal of names from our register was framed. The notice I refer to reads as follows: "The Law Society of Upper Canada. Osgoode Hall, Toronto, July 21st, 1891. Special notice. The attention of solicitors is especially directed to the necessity of the annual fees being paid before the last day of Michaelmas Term, and to the provisions of R. S. O., chap. 147, secs. 16 to 21. A practicing solicitor who does not obtain his certificate before the last day of Michaelmas Term, is liable to forfeit the sum of $40, to be suspended for a period of from three to six months, and to the fines prescribed by the Act." That notice is sent out, I understand, to every member of the Law Society every year; and if he does not take cognizance of it he is suspended at once, as we propose now to do with all members who do not pay up at the date when their payment becomes due.

I particularly wish that this matter should be emphasized, because in the large territory like the one I represent, in which there are twenty to twenty-five per cent. of the whole of the members of the profession in Ontario, I wish the members to understand that this has been framed for their benefit—not merely for the benefit of the Council, but for their special benefit; and beyond that, of course, there is the fact that we must have a correct register. All that I think they thoroughly understand; and for that purpose I draw the attention of this Council to this matter at this stage.

Dr. Bergin—And the fees being paid once a year we would avoid that nasty practice of summoning members before the Division Court.

Dr. Johnson—There is also the fact by this we avoid that excessively distressing and rephrensible practice that existed before the present legislation came into force, of having a practitioner sued in his own practice in the Common Division Court for a matter of perhaps two or three dollars. The profession lost caste by it; friends of mine have told me that it was the worst feature that I possibly could imagine to have a professional man compelled to submit to a thing of that kind.

The President—I think it would be well for the Registrar to be directed to take a note of the remarks of Dr. Johnson, so that it might be entered, either in the notices to the profession or entered upon the proceedings in the *Journal*.

Dr. Britton presented the report of the Building Committee as follows:

Your committee beg leave to report that all matters affecting the building of the Medical Council, be referred to this committee now appointed, consisting of Dr. H. H. Wright, Dr. Aikins, the Treasurer and the Registrar, who shall have full powers to act and report at the next annual meeting of this Council.

All of which is respectfully submitted.

W. Britton, *Chairman.*

I might explain why this conclusion was arrived at: there were a number of matters referred to us in respect to repairs of a small nature, and having been referred to us only two or three days ago there has not been time to secure as many tenders as we would like to get. The different items are for kalsomining the walls, cleaning the ceiling, fixing the furnaces, and so on; and we did not feel justified in awarding any of these small contracts until we had given fair and full opportunity to get it done at the very lowest possible figure.

Moved by Dr. Britton that the report be received. Carried.

Moved by Dr. Britton, seconded by Dr. Harris, that the report be adopted. Carried.

Dr. Philip—I wish to give notice of motion that next year we may appoint a committee to consolidate these three committees—the Warden, the Building Committee, and the Property Committee.

Dr. Williams presented the report of the Committee on Legislation, as follows:

Gentlemen,—Your committee, who were requested to consider the advisability of consolidating and amending the Acts establishing and governing the Ontario College of Physicians and Surgeons, beg leave to report as follows:

That they have carefully considered the subject, and believe that as what may be called the constitution of the incorporated body, known as the College of Physicians and Surgeons of Ontario, is found in several Acts of Parliament, that it would be a decided advantage to all members of said college, if all the Acts and amendments were consolidated into one Act.

Your committee are further of the opinion, that when it is so thought advisable to consolidate them, there are certain minor amendments, where they have been found to be unsatisfactory in working, which should be introduced.

Your committee have no knowledge as to the period at which the Government will be making a general consolidation of all the Ontario Statutes, and cannot, therefore, advise as to whether or not it will be judicious to allow our Acts to await the general consolidation.

We would, therefore, advise that a small Legislative Committee be appointed, to have prepared under their supervision, a consolidated Act with such amendments as may be found advisable, and under the directions of the Executive Committee, and at such time as they shall consider opportune, whether at the general consolidation, or sooner, to have the same introduced and enacted into law.

All of which is respectfully submitted.

J. Arthur Williams, *Chairman.*

Moved by Dr. Williams, seconded by Dr. Moore, that the report be received. Carried.

Dr. Rogers—Do I understand that is to go before the Legislature next year, in order to consolidate it?

Dr. Williams—No.

Dr. Harris—I would like to ask what is meant by certain minor amendments to the Act?

Dr. Williams—That is somewhat a broad question and one a great deal more easily asked than answered. I might just tell you that as to one of the minor amendments, it has been found not very convenient, to say the least, in the working. By our Act we are limited to a certain number of examiners, I believe that number is nine; we find in practice that is not enough, and we evaded the law by appointing assistant examiners. And I don't think it is desirable, and I don't think any member of the Council would say it is desirable, to be obliged to evade the law in order to make it work satisfactorily. In the Quebec Act, of which we have a copy before us, they put in thirty-two examiners. I have no thought that we would ever require thirty-two examiners, or at least not for some time; and the suggestion has been made that an amendment be put in to allow as many examiners as the Council in their judgment may consider necessary and sufficient for the work. Another minor amendment, and yet a very practical one is this—it has merely been talked of, but not decided upon—under the Druggists' Act each member is required to pay $4 a year to the sup-

port of that institution, and to pay it by the first of May; but if he wishes to leave the country and to be gone one, two or more years, he sends a notice to the Registrar, and he is not required to pay any fee during the time; but when he wishes to come back again and enter upon his business, he sends a notice to the Registrar and he is re entered upon the lists of those who are paying, and that puts it in a satisfactory shape. Our Act in that particular is not satisfactory; when a man leaves the country there is no provision made for his sending any notification, or anything of that sort, but he remains on the register, unless he is dropped off; and when he comes back, the question may crop up whether he is holden for fees during all the time he was away, and when he was off the register. As a matter of law, while he is off the register, he is not holden. It would make it much simpler and more satisfactory to everybody if, before he went, he could just say, "I don't wish to practise for a time, and I will notify you when I wish to be on again"; and then he is placed in his proper position, and there is no unpleasant feeling in connection with it; that is the second minor change.

There are a number of points in that direction; I don't know that I am authorized to go over any details; I don't know that I am in a position to do it if I were authorized, but I mention these are features of practical detail that might want modifying, that the committee would have to consider, and when they considered, submit to the Executive Committee; and in all probability send copies of a draft to members of the Council for their personal inspection and supervision, before it would be entertained at all; that is my idea.

Dr. Bergin—That is the idea of the whole committee.

Dr. Williams—There is no intention, as you will read by the report, to introduce to Parliament any consolidating Act, or any other Act, unless instructed so to do by the Executive Committee; and the Executive Committee are to consider the time when it is prudent and advisable. Whenever that may be, and whenever they tell that committee to introduce that Act, then they introduce it, and they are not allowed to move a step until that.

Dr. Williams moved, seconded by Dr. Bray, that the report be adopted. Carried.

Dr. Rogers—I rise to a question of privilege; I have been informed that during the heat of the debate yesterday, there were some expressions used by me which I have no recollection of making; and I would like very much to ask the chairman at the time what they were

Dr. Britton—I am not a stenographer, and therefore, I cannot reproduce *verbatim* Dr. Rogers' speech, but I think I can give you the sense of the expression that is used which was looked upon as unadvisable—there was a certain line of procedure advocated by a member of the Council; and at this line of procedure Dr. Rogers took exception; and he made the threat that in case this sort of thing was to be repeated, notwithstanding that we had active enemies who were doing their best to overthrow this Council, that he (Dr. Rogers) would feel forced to fall in line with the enemy and go to the Legislature.

Dr. Rogers—I have no recollection of making use of exactly such expressions as that. But I would like to state that I have no recollection of saying anything that was disloyal to this Council, or anything of that character, and if I did so I certainly wish to withdraw it; and I certainly had no idea of attempting in the slightest degree to ever do anything that would break up the College of Physicians and Surgeons of Ontario, or this Council; and I would be very sorry to be reported or considered in that way. I certainly last session, when the adverse legislation was before the Ontario House, did my best, by getting up petitions in my division in favor of this Council. I think it is safe to say no stronger petition could have been sent in favor of the Act, as it stands to-day, and of this Council (applause). For that reason I have very much pleasure in stating that if I used any expression which might be construed in any way as being disloyal to this Council I wish to withdraw it, and say that I did not intend to speak it.

Dr. Fowler—The explanation of Dr. Rogers is highly satisfactory, and must be received with great gratification by every member of the Council.

Moved by Dr. Williams, seconded by Dr. Henry, and resolved that Drs. Day, Bergin, Williams (the mover) and Britton be and are hereby appointed a Legislative Committee for the ensuing year.

Dr. Miller—I move in amendment to that the name of Dr. Henry, the seconder of that resolution, be substituted for that of Dr. Day, and that the name of Dr. Orr be substituted for Dr. Britton. Dr. Henry is a territorial representative and there are at least two school men and two territorial representatives on that committee.

Dr. Day—No, there are three territorials.

Dr. Miller—I am told there is one member of this committee who is, if not an official representative of the schools, closely allied with them.

Dr. Williams—In getting up this committee the first object sought was to get a committee that would not be too large and too expensive. The question came up how to keep it comparatively small, and yet to reach the different elements in the Council that we wished to reach; one that presented itself, talking about my own view of the case and not that of anybody else, was Dr. Campbell; the Vice-President, would have a right to a voice any way, so the homœpathic section is represented. Then I put on three members that I thought were toler-

ably familiar at least with the Act and the amendment, and that might have some knowledge in construing the Act. But I found when that was completed that we had not a single school man on the committee at all.

Dr. Bergin—The President has a right to be a member of that committee, and he is a school man.

Dr. Williams—I admit he has, and that in that sense he is a school man; I had not taken that in at the moment. However, it was suggested to me that Dr. Britton was a man right in the city; and he was representing a University; and he was not a teaching man; and upon that ground that that would make a reasonable committee; and that was why I added that name. I think all the sections now are represented; and I think the statement, coming from a member of the Council, that some Territorial man is under the wing or guidance or influence in some way of the school men, is something that ought to be explained to the Council, for there is no member of the Council who has a right to have insinuations thrown against him in that way without an opportunity being given him to justify himself; and if the gentleman who made the remark has any knowledge of the kind, he should give it to the Council and allow the gentleman who has the charge made against him to clear himself of the charge.

Dr. Bergin—There have been a good many serious charges brought against me in my time, but I don't think I was ever accused before of being exactly pulled by the nose by the schoolmen; still, perhaps I had better say distinctly that I don't think I am as bad as Dr. Miller thinks I am; and if you think that Dr. Geikie and the rest have too much influence over me, I have no objection to have my name struck off.

Dr. Day—There are only three territorial men on that committee, and I am one of the three; but I don't wish to make any explanation whatever; I have been in this Council several years, and I leave it to the Council to say whether school men or anybody else can either snub or rule me.

Dr. Miller—I have no intention whatever of insinuating or stating directly or indirectly that any one man was capable of snubbing or leading by the nose anybody else; but, in view of the discussions that have taken place during this session of the Council, I think it is quite right. There is a larger representation of territorial men in this Council than any other one class, and I think a relative proportion of these men should go on this committee; that is my reason for moving the resolution which I did. I think there are men in this Council who are old enough, and who have common sense enough and good judgment enough, if they chose to exercise it, to prevent them from being so very thin skinned as to take to themselves an insult or sneer or snub when there is nothing of the kind ever intended; and I think it is quite time enough for these gentlemen to ascribe any particular intention to other members when their intentions are more clearly stated than they have been by me. If I can get a seconder, I would beg leave to move that the names of the committee be Drs. Bergin, Williams, Orr and Henry. Of course, if no gentleman seconds my resolution it falls to the ground.

Dr. Rogers—I think, Mr. President—

Dr. Fowler—Do you rise to second the amendment?

Dr. Rogers—No.

Dr. Fowler—As there is no seconder for this amendment I will put Dr. Williams' motion.

On the motion being put the President declared it carried, thirteen members voting for and six against the motion.

Moved by Dr. Bray that the President now leave the chair, and the Vice-President take it.

Dr. Campbell in the chair.

Dr. Philip moved, seconded by Dr. Harris, that the thanks of this Council are due to, and are hereby tendered to, Dr. Fowler, the President, for his dignified, efficient and impartial conduct in the chair.

Carried unanimously by a standing vote.

Dr. Fowler—I thank you very much for the kind vote you have passed. My duties have been rendered easy and pleasant by the consideration of every member of the Council.

Dr. Bray moves that the President again take the chair.

Resolved that in accordance with the by-laws, the Registrar do now read the minutes of this last meeting of the Council, which was accordingly done.

The minutes were found correct, and on motion confirmed, and the President directed to sign the same.

FIFE FOWLER,
Pres. C. P. and S., Ont.

Selected Articles.

ADDRESS IN MEDICINE. DELIVERED AT THE MEETING OF THE BRITISH MEDICAL ASSOCIATION OF NOTTINGHAM.

In his opening remarks Dr. Cuming referred to the fact that, although the profession of medicine had lost somewhat of its repute in respect to learning, yet, at no time, had there been more assiduous cultivation of medicine, or its claims to public usefulness been capable of being so triumphantly indicated. He thought that its progress

might be furthered still more if chemistry, botany, and natural philosophy were, to a great extent, banished from the curriculum, since, whatever their value, as developing habits of careful and accurate observation, it could not be denied that there are several subjects more closely identified with medical science which afford ample scope for wide and exact mental discipline. He asked whether as at one time it was necessary to defend medicine from the overweening pretensions of authority and prescription it may not now be necessary to shield it from the excessive demands of science, and he then proceeded as follows :

We may now leave the negative part of our subject, and turn to what constitutes the indispensable part of our equipment. Besides the so-called practical subjects—medicine, surgery and obstetrics—we should know all that can be learned about the structure and the functions of the human body. Our anatomy must be thorough, although it is instructive to remember, even in respect of a subject so absolutely essential as a groundwork of medicine and surgery, that a surgeon of no less eminence than Lawson Tait entered his protest in Birmingham against the unnecessary minuteness and elaboration of even anatomical teaching. For my own part I am inclined rather to adopt the standard of Huxley, that anatomy should be so learned that the body will be as if it were transparent to the eye.

Now, one cannot fail to be struck with the fact that among the subjects of greatest present interest there are two which seem to give evidence of distinct currents of thought moving apparently in opposite directions. On the one hand, we find an important part in pathological and physiological processes ascribed to minute organisms, the white corpuscles or leucocytes, which are apparently free from all direct nervous influence and float freely in the blood ; and, on the other hand, we find that the domain of the most highly-organized and differentiated part of the body, the nervous system, is being extended and increased. It seems as if attention was being divided not unequally between the simplest elements of the body and the most complex portion of its structure ; shared between little masses of protoplasm, which present but slight differentiation in structure, and the nervous system with all its complicated and refined activities and powers. And even, what is still more remarkable, we find a certain similarity in function suggested as existing between these seemingly widely different portions of the economy. It has long been known that unicellular organisms, amœboid cells, possess the power of choosing their appropriate nutriment and of rejecting what is harmful or useless to them. These facts have been for a considerable time familiar to naturalists, and their remarkable character has caused them to be studied with much interest. It has been abundantly shown in respect of animals higher in the scale, but possessing either no cerebral hemispheres, or only a rudiment of them, that they are capable of much and varied bodily activity in response to suitable stimuli. With regard to the human body, it has been also established that osmosis does not take so important a part in nutrition as was formerly supposed, and that a distinct selective power is exercised by the epithelial cells of the intestines, which, for example, pick out the globules of fat from the materials within their reach, and transmit them to the commencement of the chyle vessels. Now, the striking observations of Metschnikoff regarding the action of the leucocytes on microbes, the phenomena of phagocytosis, have naturally been received with more favor, owing to the knowledge we possessed of facts presenting some analogy with his observations.

The instructive discussion which took place in the Pathological Society of London during the earlier months of the present year has brought, more prominently than formerly, the facts on this subject before the profession in this country. In the main, I think, we are compelled to accept Metschnikoff's views as representing the present state of our knowledge, and accordingly we must accept phagocytosis, notwithstanding the opposition of some observers of great weight and authority, and notwithstanding some considerable objections. It seems then to be established that certain cells, of which the leucocytes are the most important, possess the power of attacking and destroying certain infective microbes when introdued into the body ; that these free, mobile and apparently quite independent organisms act in a manner highly important to the integrity and safety of the body at large, protecting it under suitable circumstances from injurious effects of virulent bacteria. So much, I think, may be regarded as fairly established, even should Buchner's views regarding the importance of antibiotic fluids in the blood be ultimately established. It is, however, with a certain degree of wonder, not unmingled with distrust, that we find something of the purposive character which has hitherto been supposed to be the exclusive endowment of conscious beings attributed to these minute, hardly differentiated masses of protoplasm, We learn that under the influence of chloral the leucocytes refuse their work and become anæsthetised. so that the bacteria have it all their own way. We are told that they show a liking for some substances and an instinctive aversion for others, and some facts are adduced regarding their mode of warfare which seems to point to a more than nascent civilization. One observer describes them as marching right up to the bacilli and attacking them, which seems analgous to the Napoleonic tacits in battle, while the lymphocytes are described as forming a second line of defence, a method

suggestive of the more watchful strategy of Moltke. Altogether the demeanour and endowments of the cells open up a field for investigation both as regards cell action in itself and as regards its relations to the organism generally which contains much that is of the highest pathological and physiological interest. A new cellular pathology is being developed, differing widely indeed from the brilliant theory bearing this name, so long familiar to us from the powerful advocacy of Virchow, but agreeing with it in the important functions assigned to the ultimate elements of the body as independent factors both in morbid and in healthy processes, and also in representing them as being uninfluenced or as only indirectly influenced by the nervous and vascular systems in some of their essential activities.

Now, while phagocytosis is directing our attention with increasing interest to the minutest and most elementary constituents of the organism, on the other hand renewed zeal is being shown in investigating the complex problems which the nervous system presents to the inquirer. Even with regard to those more doubtful subjects which are in the borderland of legitimate scientific inquiry a revival of interest has taken place. Hypnotism and its allied states have long exercised a powerful fascination on a large portion of the intelligent public, and have been looked on with much curiosity, but always with a little suspicion, by physicians. Although not new these singular and striking manifestations have of late been more carefully studied, the methods of producing them have been more clearly ascertained, and one is glad to notice that, instead of being relegated to non-professional men, they have engaged the attention of some of the physicians most competent to conduct such inquiries, and most capable of estimating their results with precision and judgment. Whatever verdict may ultimately be passed on hypnotism there can be reasonable doubt that certain facts have been elicited which show that in the hypnotic condition profound and extensive modifications occur in the sensory and motor functions of the brain. Now, admitting much that has been urged against hypnotism; granting that it is likely to attract the attention of men who have a liking for the marvellous; that it can be practicised by men possessed of no scientific training and incompetent to deal with the most refined activities of the nervous system, and that it thus lends itself easily to charlatanism and imposture; granting that it may be attended with danger of a formidable kind, and also that its field of therapeutic usefulness is likely to be at best a very restricted one, and its effects probably only transitory; still, it is a subject eminently deserving of careful and profound scientific investigation, conducted with the most rigid precautions, so as to exclude intentional or involuntary deception. We do not need to be much concerned about whether, as has been stated, we have in hypnotism a condition akin to natural sleep, or whether it is in reality a pathological state related to hysteria. What is at present wanted is a clear account of the phenomena which are capable of being produced under its influence. If, as numerous statements aver, hynotic suggestion can be shown to in any degree affect processes of nutrition and the reaction to irritants, then some points of the very highest interest as regards the influence of psychical on physical processes will have been established. Most of us have been inclined to read with a considerable degree of scepticism the accounts of instances in which obvious physical changes have been stated to have resulted from nervous influence, especially when these changes have occurred in a rapid manner. Should the statements on this subject which have been made so positively and on the faith of apparently cautious and trustworthy observers prove to be authentic we shall certainly be compelled to reconsider our position with reference to them.

The opinion is very generally entertained that the diseases of the nervous system are now more widely diffused and more numerous than formerly. It is somewhat difficult to obtain accurate statistics on this question, and not altogether easy to ascertain their precise value, but some facts seem open to no serious question. In Ireland the proportion of the insane to the population has steadily increased. I owe to the kindness of the Registrar-General for Ireland the numbers of those mentally affected as shown in the census for 1891 as compared with that of 1881. The number of insane, including idiots, were in 1881, 18,313; in 1891, 21,188; an increase of 2875, although the population has diminished by 453,677. The proportion is 224 to each 100,000 of the population. Even allowing for the fact that emigration takes away, in the main, the healthy and strong, and that consequently this represents the proportion of insane to a much larger population than now exists in the country, still, it indicates a very notable increase. The reports of the Registrar-General for England show an almost uninterrupted increase in the mortality from nervous diseases. Some of this is, no doubt, explicable in other ways, but on the whole the evidence of statistics coincides with the general opinion among physicians that there is an augmentation. Whether this depends on the increase of causes tending to overwork and weary and exhaust the brain and nervous system we need not at present stop to discuss. Now, even those of thus who have no especial connection with treatment of the insane, find ourselves frequently brought into contact with questions regarding insanity. Apart from the mere granting of certificates, which, however, is attended with

much anxiety and with heavy legal responsibility, there are the numerous minor forms of aberration in which it hardly becomes a practical question whether they necessitate restraint or not, and there are also the many instances in which general affections produce mental phenomena. Then we have the numerous cases of temporary insanity which are never known beyond the families of the sufferers, and the medical men to whom their care is entrusted, as well as the incipient stages of mental disease in which skilful management is of the utmost importance. It was, no doubt, in consequence of considerations based on these facts that systematic instruction on the subject of mental disease has been adopted by some of the examining bodies as a necessary part of the training of the practitioner in medicine, and has become a recognized portion of medical education. I may add that the existence of the Psychological Section of this Association is a further proof of the importance of this branch of inquiry to the medical practitioner.

Now, the study of medical pyschology alone is, to my mind, a very incomplete and inadequate preparation for comprehending the multiform disturbances of mental function and is even more inadequate in respect of either diagnosis or therapeutics, and in regard to the expectation of adding to our knowledge of cerebral diseases as regards either localization or character. I have long been of opinion that some knowledge of psychology proper—that is, of the science of the phenomena of mind in its normal conditions—is absolutely necessary. Without an acquaintance with the problems and methods of psychological inquiry it is impossible to observe and to describe adequately the phenomena of morbid mental states. In the investigations also of those conditions in which the disturbance of a single function is what is most manifest and striking, it is clear that a knowledge of the limits of differentiation of function must be of capital importance. It will be of value also to become familiar with the terms used in psychology, in itself a study of no inconsiderable difficulty and extent. In dealing with such questions as amnesia, aphasia, delusions and hallucinations, and other disturbances of consciousness, we are not only in the sphere of our legitimate activity and of our daily work, but we are touching, not indirectly, on some of the most interesting problems of mind. In examining the question we get into one of the main currents of modern thought, and have suggested to us some problems which have engaged the attention of many of the acutest intellects of ancient and modern times. Some psychologists refuse to accept any help from physiology, and fortify themselves in the citadel of introspection, declining all external aid. It is said by them that the comprehension of physical processes throws no light on psychical processes, and that these are absolutely heterogeneous. I am not concerned to defend the claims of physiology, which find advocates enough, but in respect of morbid conditions, when we find misery and despondency connected with defective digestion, perversions of the will and deceit attending on hysteria, emotional instability, causeless anger and childish tears and laughter accompanying the latter stages of chronic damage to the brain; when, to take a simpler and more transitory influence, we find alcohol leading to the well-known mental exhilaration which attends the early stages of its effect; when we find opium, in those accustomed to its use, producing such agreeable sensations that De Quincey could state: "Here was the secret of happiness, about which philosophers had disputed for so many ages, at once discovered; happiness might now be bought for a penny and carried in the waistcoat pocket; portable ecstacies might be had corked up in a pint bottle: and peace of mind could be sent down by the mail"; when we find all these and many kindred mental accompaniments of physical changes brought to our knowledge we have the strongest motive to attempt the analysis of the material lesion and of its modifications and varieties. Some of our greatest observers attach much moment to the entire and absolute denial of any relation of cause and effect in these events, and they insist on regarding the neural occurrence as merely concomitant with the mental occurrence. Now, we may grant at once that the nexus between them is as yet undiscovered and may be undiscoverable; but in investigating mental phenomena from the physical side we are doing something that can hardly fail to throw light on certain obscure questions, and we need not embarrass ourselves with any considerations regarding the real connexion or relation with each other of these concomitances. For my own part, I may be permitted to say that the progress of psychology is, I think, in a great measure to be sought for at the hands of the members of the medical profession. In physiology I am convinced that pathological and clinical observation have done more than experiment to elucidate function; and in like manner I have little doubt that the study of morbid and limited and incomplete mental and cerebral manifestations will throw a great deal of light on some of the most abstruse questions in the relations of matter to mind. It will be bringing into action the logical method of difference, the ascertaining the influence of the removal of part of the cause on the effect. Now in assisting in the solution of these grave problems I think our function as medical men is in the main a limited, although a highly important one. Our obvious duty is to collect such a body of facts as will afford a sure foundation for future generalizations. Besides the states of marked and more or less well-defined disease which

enter of right into our nosological classifications, we have a wide field in examining into the influences of habit and heredity, the cerebral peculiarities which, more or less transformed, descend from generation to generation, constituting an "innate preparedness" for the development of particular morbid phenomena, the relations between vice and disease; and the question of when criminality implies merely pathological conditions.

I think we should avoid, at least for the present, the more ambitious philosophical attempts which have exercised, during many generations, a powerful influence on some of the highest intellects of our race. We need not attempt the great metaphysical questions of substance, reality, the nature of consciousness, the ontological nature of space and time, the essence of casual action and the like. The domain of the clinical and pathological observer is a humbler, but, we may fairly congratulate ourselves, a more fruitful one. Just as biology concerns itself with the manifestations of life and puts aside all theories regarding its nature and origin; just as, in fact, all sciences have to resolutely set aside at the beginning a certain number of unsolved questions, so we may fairly relegate these problems to other and more competent authority. Nor do I think we should gain much at present by attempting to form any wide generalizations. A working hypothesis is no doubt of the highest utility in an experimental science, even if it ultimately comes to need to be corrected or to be altogether abandoned; and, if the facts which come before us were capable of being called into existence or of being modified at pleasure, such a hypothesis might be necessary for our guidance. But we have to deal only with phenomena not susceptible of voluntary modification, and what we have to do is simply to observe them with accuracy and to record them with fidelity. In these observations the materialist, who regards mind as a form of motion in the brain cells, and the spiritualist, who looks on it as an immaterial principle underlying the phenomena of consciousness, although acting through the nervous system, can work together in perfect harmony, as the problem is to observe and analyse the phenomena brought before them. Even in this task there are limits set to our observations which it is not easy to surmount or evade. Physiologically it seems improbable that we shall ever be able to identify or to accurately estimate the results of mental activity in the shape of oxidation products of brain substance. The weight of the brain is about 2 per cent. of that of the body, and we can hardly doubt that in mental processes only a small portion of the cerebrum is employed at any given time. Besides, we have no measure of the relative degrees of intellectual exertion, and consequently cannot express them in terms of potential energy.

The nerve-cell must doubtless be accepted as the ultimate unit of the nervous mechanism and the nerve-fibre plexus as containing or constituting the channels of communication between these elementary units of cerebral activity. When we come to localization of function, with the exception of the motor areas and Broca's convolution and some further fairly definite areas concerned in disturbances of language, we have little which is well ascertained. If, as is hoped, we can make out that in the brains of the insane special areas are differently and disproportionately affected, it is not unreasonable to suppose that these areas may ultimately be ascertained to be connected with special functions. Charlton Bastian long ago expressed the opinion that the posterior lobes of the cerebrum are the most important for intellectual purposes, and this view has received the high sanction of Hughlings Jackson. On the other hand, Bevan Lewis lays down without hesitation the following principle regarding insanity. He states that while acute insanity may be regarded as a very general implication of the sphere of mind, and hence of a widespread disturbance of the cerebral cortex, its morbid results on the brain are decidedly concentrated on the motor or fronto-parietal section of the hemispheres. We learn from these conflicting opinions how little is definitely ascertained regarding the most important developments of cerebral activity. If I might indicate some definite lines on which medical observation might be of the greatest value in elucidating some unsettled problems, I should be inclined to name, among others, the aberrations and decay of memory. For this species of observation, no apparatus is necessary, and the opportunities are daily offering themselves and most abundantly to the busiest practitioner. Have we, as yet, any sufficient number of facts to justify the dissolution view of the decay of memory—that is, that in the decay of memory there is a certain definite sequence of events. The law of regression, as it has been formulated by Ribot, corresponds to the general principles of dissolution as a reversal of evolution which have been enunciated by Hughlings Jackson with his usual force and ability. The process of decay would then go on in a regular gradation, from the complex to the simple, from that which has been least thoroughly organized or incorporated into the brain to that which has been most so, from the least to the most automatic of our acquisitions, so that we first forget recent events, then intellectual acquirements, then the impressions which belong to the domain of the feelings, and, finally, how to perform automatic acts. All this, of course, depends on a supposition that a physical modification of some of the very many millions of cells of the cortex of the brain takes place originally in connection with the mental process which memory revives, this modification constituting the organic basis or anatomical

substratum of memory. It is suggested that it is in this way that we can best comprehend the retention of impressions which are for a time absent from consciousness, just as it is the intercommunication of the cells which enables us to conceive how the impressions can be revived. But is this law fairly established? When we reflect on the enormous number of instances in which memory suffers notably, and, so to speak, pathological decay in age, it would seem easy to collect and classify such a number of facts as would put this doctrine on a secure footing. But I think this is far from being the case, and the number of exceptions seems to be so great that we may fairly regard this law as at present in this important sphere, unestablished. I have recently had the opportunity of witnessing a curious disturbance of memory in a young medical man, in whom multiple neuritis had arisen in consequence of much and premature exposure to cold after an attack of influenza. Besides the usual paralytic symptoms, his memory became greatly impaired. He gradually reached the point of forgetting the year and the month, became hazy about his personal identity, and was doubtful who his wife was, and where he himself was residing. *Nec d mus nec placens uxor* was retained in his memory, but he still had a very fair recollection of the leading diagnostic and therapeutic facts about his profession. He had forgotten a great deal, but the platysma myoides was fresh in his recollection, and the differential diagnosis of fluid in the pleura from consolidated lung was retained firmly. These facts, I cannot but think to the no small credit of his teachers, were so organized in his brain that they resisted dissolution.

The phenomena of aphasia, which have been so much studied and about which so many curious facts have been ascertained, bring us in contact with a most interesting problem, the relations of thought to language. It is, I think, doubtful whether without words any continuous reasoning can be carried on, and it is pretty certain that in the absence of the symbol no abstract reasoning could take place. According to the fine illustration of Sir William Hamilton, all considerable progress in thought must be accompanied by a corresponding development in language. "You have all heard of the process of tunnelling through a sandbank. In this operation it is impossible to succeed unless every foot—nay, almost every inch—in our progress be secured by an arch of masonry before we attempt the excavation of another. Now, language is to the mind precisely what the arch is to the tunnel. The power of thinking and the power of excavation are not dependent on the words in the one case or the mason work in the other; but without these subsidiaries neither process could be carried on beyond its rudimentary commencement. Though, therefore, we allow that every movement forward in language must be determined by an antecedent movement forward in thought, still, unless thought be accompanied at each point of its evolution by a corresponding evolution of language its further development is arrested." Now, when we find that a special damage in one situation makes us lose the power of reviving the recollection of the word, although we recognize it when heard; that damage in another region so affects us that the sight of the word does not call up its mental representation, although we see the word plainly; and that lesions in a third region have as their result that the sound of a word will not call up the corresponding idea, although we hear the sound of the word distinctly; it is impossible not to recognize that here we have got a good way in making out the very mechanism of this potent instrument of thought, and it is difficult to see in what other way we could have arrived at a similar comprehension of these complex and refined activities. We learn from facts like these how great a part the observation of the dislocations and derangements of important functions can play in enabling us to better understand the scope and nature of the function itself. Few things are more noticeable in connexion with this subject than the amount of research which is being conducted on the subject of experimental psychology. In this direction much of the best work has been done in the Leipsic psychological laboratory, by and under the direction of Wundt, but kindred investigations are being made by various observers. The researches on the intensity and the time relations of sensation and of motor response to stimuli are of the highest interest. They have enabled us to ascertain the time occupied by mental acts, by the reproduction of impressions, by acts of association and by logical judgments. The amount and quality of work done in this direction justify the hope that psychology as a natural science will take its place beside physiology, and that the physical basis of mental activity will be more and more understood and elucidated. I have dwelt, at perhaps undue length, on this aspect of my subject, partly because it has a direct bearing on the relation of medical science to other branches of knowledge and partly because it furnishes a convincing proof of the claim of medicine to take a leading part in the elucidation of important pyschological problems.

Again, to take an instance of how medical experience can correct psychological speculation, we may, even if it be a little ungracious, select an example from the writings of a great thinker to whom many of us are under deep intellectual obligation—Herbert Spencer. This eminent psychologist attributes an importance to the circulation in the brain which physicians would be inclined to regard as excessive. He states that

quickening of the circulation in the brain causes a rush or unusually vivid ideas and makes the memory more distinct than usual. He contrasts the illusions of delirium as exemplifying the extreme vividness with which revived feelings may rise when the cerebral circulation is excessive, and the loss of consciousness caused by cerebral anæmia as exemplifying the converse result. Now we have ample opportunity of knowing that anæmia is a fertile source of delirium, as the term "inanition delirium" indicates, and while there is much that is doubtful in that most obscure chapter of pathology which deals with hyperæmia of the brain, we know that it is at least as likely to produce somnolence and coma as it is to produce illusions. If the rapidity of the blood-current were so potent as Spencer supposes, physical exercise ought to heighten the receptivity of impressions, and there would be even a perceptible increase in the erect as compared with the recumbent position. As a matter of ordinary observation, it is found to be difficult to collect our thoughts when the circulation is much accelerated by rapid exercise, and hardly possible to carry on a train of reasoning requiring any considerable effort of memory. It has been urged by Schroeder van der Kolk that a free communication exists between the arteries and veins in the pia mater so as to allow a considerable portion of the blood, when the circulation has been quickened, to pass away over the cortical substance without entering its tissue at all, thus avoiding the disturbance which its rapid passage through the capillaries of the brain would cause. In this way, as he has put it, the storm sweeps over the brain without our perceiving it.

I have alluded to this comparatively trivial point to indicate how medical knowledge comes to have a direct bearing on subjects of wider and more general interest, and to show, also, how physicians, by bringing their special knowledge to bear in this way on the solutions of some of the most interesting problems which can engage the human intelligence, can best vindicate the dignity of their profession, which will thus have the fairest prospect of again forming an important factor in promoting the intellectual progress of the race. Nor even in a therapeutic sense will studies of this kind fail to bear fruit in enabling us to deal more rationally and more successfully with the morbid conditions of this important portion of the economy. It can hardly be denied that there is a tendency among the most enlightened members of the profession to attach a less overwhelming importance to the administration of medicinal agents, and to have recourse to the employment, instead of them, of what may be called physiological remedies for the treatment of the morbid conditions of the mind and brain. Light, air, nutriment, environment, the warding off of hurtful and the presentation of soothing impressions—these are more frequently and more successfully employed than the large class of nervines, of the remedial actions of which we are not so certain as we could wish. And when we add to these the so-called moral treatment, comprising amusement, occupation and the like, we have enumerated most of the agents on which we rely with the greatest and the most assured confidence. I do not wish to be understood as underrating the numerous and potent additions which have been made of late to our stock of nervine remedies. I like to know that they are being constantly added to, and that their actions are being more fully investigated and defined. I regard them in the light of a great arsenal of warlike weapons of the newest construction and the most perfect adaptation to their purpose, kept always ready for use and in a thoroughly efficient state of order and readiness. But as I regard it as the highest and most successful statesmanship not to be obliged to employ these powerful weapons in actual warfare, so we best vindicate the efficiency of our art by having recourse to our armaments only as sparingly as may be, confident, however, that at critical moments and in periods of active disturbance they can be employed with great and admirable effect.

It is a common and easy practice for writers to exercise their wit at the expense of the profession of medicine. Molière and Le Sage have condemned to immortality what was perhaps not a very gross caricature of some forms of practice in their day; but graver and weightier thinkers have lectured us on our shortcomings and have given us much well-meant advice. Now, there is nothing which gives us a higher idea of the ability of the earlier physicians than when we examine the opinions and theories which have been advanced by some of the most commanding intellects of the world in reference to medical subjects, and which are often ludicrous and absurd The father of modern experimental philosophy, Bacon, brought a charge against physicians that they prescribed in too simple a manner and did not combine together a sufficient number and variety of drugs. It is but justice to say that a number of both ancient and modern therapeutists have applied themselves with no inconsiderable energy to relieve their profession from this reproach. The same great philosopher advised the employment of a peculiar bath to obviate the hardening effects of age, and he hoped by this means to promote longevity and to restore to the rigid frame of age the suppleness and freedom of youth. The bath was to consist of fresh blood, or if that were found loathsome it might be made of milk, butter, yelks of eggs and the fatter kinds of flesh, with oysters and wine, and sweetened with sugar or honey. This extraordinary bath was to be followed by various anointings and frictions. It is hardly to

be wondered, when one reads this curious prescription, that Harvey, who was said to have been his physician, remarked of him, "He writes philosophy like a Lord Chancellor." Berkeley recommended, as is well known, his wonderful tar water as not only capable of remedying bodily disease, but as having a valuable influence on the understanding, an effect of matter on mind which we would hardly have expected from the great master of idealism. "Nor is it only useful to the bodies of infants," he says, "it hath also a good effect on their minds, as those who drink it are observed to be remarkably forward and sprightly." When we remember that at the time this passage was written Cullen and William Hunter were teaching medicine and anatomy we have no reason to think that the physicians of that day had much to learn from the meta-physicians. Kant, the most profound speculative genius of Germany, was strongly opposed to vaccination, which he called "the inoculation of bestiality," and he was enthusiastic about what he regarded as the great discoveries of Beddoes regarding the prevention and cure of consumption. One of these discoveries was the use of digitalis as a remedy for phthisis, which Beddoes regarded as opening out a brilliant era for humanity, as in his hands it cured a large number of cases.

Now, when we see the notions which existed on the subject of medicine among these great and highly endowed thinkers we can form some idea of the views which would in all likelihood find favor among the masses of mankind and the effects to which such views were likely to lead, and we can form, too, a fairly adequate notion of the superiority, on their own ground, of the contemporary leaders of medical science. We can see, too, what important services legitimate medicine has rendered to the world, even if it had only the negative merit of protecting mankind from disastrous and ignorant meddling. Physicians cannot accept the position of mere *curiori nature;* in presence of serious disease they must act with the best means they possess. Failing in this duty they would be justly liable to the reproach of Mephistopheles :—

"To grasp the spirit of medicine is easy,
Learn of the great and little world your fill;
To let it go at last, so please ye,
Just as God will."

We must always remember that it is by its utility to the world that medicine must ultimately stand or fall, but we must use the word utility in its widest signification as comprising, on the one hand, all the special activities of our profession in preventing or mitigating or removing human suffering, and on the other all its incidental advantages in aiding the development, and progress of human intelligence by taking its position along with other members of the group of sciences of observation. It is to be regretted, but I fear it is inevitable, that the study of the old humanities must be curtailed and must even in some measure disappear from medical education. Greek seems doomed passed recall, and it will perhaps be possible to say at some future day of the medical profession, as Petrarch said of Italy in the fourteenth century, that it did not contain more than ten persons who could appreciate Homer. And yet, in putting aside Greek, medical men will miss some of the finest products of the human intellect moulded in the most perfect form. Many of those who take an interest in the study of the subjects I have been imperfectly advocating will be glad to be reminded of what is surely one of the most touching passages in ancient literature, that in which the scene before the death of Socrates is related in the Phædo of Plato, which the illustrious old psychologist, after his fetters had been removed, began to bend and rub his leg where the chain had galled it, saying as he rubbed, "How singular is the thing they call pleasure and how curiously related to pain, which might be thought the opposite of it; for they will never come to a man together and yet he who pursues either of them is generally compelled to take the other." Our psychologists are to day still busily engaged in investigating the same problem.

Latin will make a harder fight to maintain its place, and will probably succeed in retaining it. If it should fail it will be impossible not to feel a profound sense of compassion for the physicians of the future if they are never to be admitted to the simple feasts at the Sabine farm at which educated men have been charmed guests for so many generations, or if they are never to feel the beauty and finish of the hexameters of Virgil. I do not suggest that grace of style or elegance of diction is to be regarded as of intrinsic value in medical writings—

Res ipsa ornari negat, contenta doceri.

Works on a subject so changing as medicine is, are destined to a comparatively brief existence, and any prolonged or anxious care devoted to their form and finish would be alike unnecessary and fruitless. The classical Latinity of Mead and Heberden has not saved their works from all but total oblivion. The same fate is destined, at no remote date, to overtake the eloquent periods of Latham and the charming lectures of Sir Thomas Watson—lectures which surely not merely early prepossession which makes me regard as among the finest English prose of the generation which witnessed their publication. But good writing satisfies the literary conscience of the author, and gives a not altogether undesirable pleasure to the reader. The pursuit of literature is everywhere being regarded as less necessary—and we must be of our generation—and from a utilitarian point of view it is impossible to give more than a pass-

ing regret to those branches of learning which have so long been regarded as the stamp and evidence of culture. What with unconscious irony are called the paying subjects, are brought more and more prominently forward in general education, and those studies which bear on professional training will ultimately prevail to the comparative exclusion of all others. But it must be also borne in mind that it is not by the mere accumulation of scientific facts that the physician of the future will gain his most valuable training. It is by those studies which develop and heighten intellectual energy, and aid in forming and promoting that flexibility and grasp of mind which enable it to deal with the varying problems which medicine presents in such abundance. It was remarked by Dugald Stewart that Locke owed some portion of his success as a psychologist to his medical training. "No science could have been chosen more happily," he observes, "to prepare such a mind as that of Locke for the prosecution of those speculations which have immortalized his name; the complicated and fugitive, and often equivocal phenomena of disease, requiring in the observer a far greater portion of discriminating sagacity than those of physics, properly so-called, resembling in this respect much more nearly the phenomena about which metaphysics, ethics and politics are conversant."

It will always also be of great aid to the physician to be able in dealing with those committed to his care, to recognize the influence on them of ideas of hope, of confidence, of endurance; to be able to deduct from their complaints what is the result of an impressionable nervous system and what of pure imagination; to solve, as nearly as may be, the personal equation. These capabilities will supplement beneficially the most refined and accurate physical diagnosis. We need not doubt that the multiform aspects of disease, following, as they do, closely on the track of all the numerous and diversified forms of human energies and activities, will afford ample scope for the freest exercise of the highest scientific faculty as well as for the employment of the most minute and patient observation. The tendency of the medicine of the future will no doubt be in the direction of greater specialization. Physicians and surgeons will devote themselves more and more to the cultivation of a limited portion of the vast and always widening field of knowledge. Medicine must adapt itself to the varying necessities and requirements of the world. It must prove itself capable of supplying the wants of a civilization rapidly becoming more complex in its development, and therefore more varied as well as more exacting in its demands. It must press into its service all knowledge, physical and mental, likely to aid in the furtherance of its mission; accepting the help of its sister sciences, but allowing itself to be dominated by none of them. It must be alike flexible in its methods, and steady in its aim; and must be at once cautious and aspiring, always sane in practice, while bold in speculation. But at the same time it behoves all those concerned in its guidance, or responsible for the instruction of those who are to become its members, to bear in mind its position as one of the main supports of the tripod of learning, as one of the great factors in the intellectual progress of humanity; being well assured that it cannot sacrifice any portion of its intellectual elevation and dignity without a corresponding sacrifice of its truest and most practical usefulness.—*British Med. Jour.*

THE METSCHNIKOVIAN THEORY OF VITAL RESISTANCE.

(Continued from October Number.)

When either of these substances is liberated in the organism by the destruction of the cells from any cause, all of the phenomena characterized as vital resistance immediately transpire. They are the most powerful cell-manure, and cause fever and intense cell-action of all kinds. Should this destruction of the cells, however, be carried beyond a certain limit, which may be designated the physiological reaction, a state of septicæmia arises from the large quantity of ptomaines present. It is under the stimulating influences of these powerful substances derived from the destruction of the cells that the surviving body-cells are enabled to resume their latent functions —to attack the micro-organisms which are attempting to destroy, and to overcome them. That these effects do follow, and that these substances do possess these properties, is now generally conceded and capable of demonstration by any one. All that is required to see the processes of phagocytosis in operation is a lens, a little frog's lymph, and some anthrax bacilli. With these the process may be watched, and the cells can be seen taking in and digesting the bacilli. With these facts we are, in a degree, prepared to comprehend the details of the processes by which the organism protects against and arrests disease. In a process so general as this one, which must necessarily go on to a greater or less degree continuously, owing to the universal presence of germs in some form or other, it is objected that the cells could never obtain a special training and be able to manifest a specific exemption, which we know is the case with a number of immunizing diseases.

After an attack of disease conferring an immunity there is an exemption from one disease alone. All theories of immunity have, as yet, rested at this particular stage of their career, and none have shown their ability to pass it and carry

conviction with them. How do the body-cells receive and retain a specific immunity? As already seen, the struggle between the cells and the micro-organism is between two living organisms, both possessing distinct individualities, functions, and products. The micro-organisms, just as the cells, produce and liberate life-products and waste, which circulate in the tissues of their host along with those of the latter's production. Thus far the cellular activities have been attributed to those products arising from the cells alone, though in every attack of disease the phenomena must transpire in the presence of and under the influence of both of these classes of products. The products of the germs *per se*, the leucomaines, are also capable of augmenting the vital actions of the cells, acting as stimulants, and causing all the phenomena of phagocytocis; and when this passes beyond the stage of physiological reaction, the same as that produced by the death of the cells through their products, there are high fever, intense constitutional disorder, and septicæmia. Now, experiments show that it is possible to induce the refractory condition from either of these two classes of substances when employed singly and alone. The tissue-juices, cell-extracts, or products—spleen, lymph-glands and testicle—when removed artificially from crushed tissues, are capable of producing, when injected into an animal, all the phenomena of vital resistance in an augmented form; and the culture-fluid products of pathogenic germs will, when injected, also bring about the same changes, both resulting in the refractory condition of that organism. In other words, that immunity communicated by the different substances and methods of preventive inoculations, or natural attacks of disease, is in reality all acquired by the same process and mechanism of the cells. Increased resistance from any cause, original or acquired, is but the expression of the augmented powers of phagocytosis of the cell. The destruction of the germ is always effected by this process, though the chemical influences of the intercellular juices and products doubtless assist to some degree. Even in natural immunity, repeated inoculations train and strengthen the cells, and make them destroy more completely (Chaveau). Ferran shows that the refractory condition becomes stronger and stronger the oftener the inoculations are used and repeated. This is true in so far that a susceptible and weak animal may be made to resist the most virulent and deadly germs. The experiments of Metschnikoff will explain the modus of these acquirements and show how any influence whatsoever, which is capable of reawakening the latent functions of the cell, may bring out and strengthen them so that an adaptation will transpire and a superiority will be the consequence.

The real effects of either of these substances will be the same, and a corresponding change in the function and structure of the cell will follow as the consequence of alterations in environment.

The laws of biology, as applied to the instances in point, show that, whenever from any causes there is an actual change in the media of an organism, there is always a reaction and consentaneous change in its structure. All structural changes find their expression in altered functions, since the function is but the directed energy of the properties of a tissue. In this way, the slightest change in the external media of a cell may give rise to the most complex results in its behavior. It may call the cell into increased activity—increased waste and repair—and thus become the origin of the widest variation. Thus, every change of composition or constitution in the medium must find a response in the cell, and the cell becomes modified by every such response. Again, every modification must be a selection determined by the laws of growth—the affinities of the cell—and every increment of function is preceded by an increment of substance. In the naturally acquired form of immunity we have, in addition to the stimulating effects of the tissue-extracts arising from the death of the cells, also those of the specific products of the microörganisms. It is in the presence of this *specific* factor that we find the special modifications causing a particular immunity, which the cells manifest in the future. It is an element in the conditions of existence of the cells, and it must necessarily have its effects in the final synthesis and representation of an acquired immunity.

The tissue-extracts or proteids raise the physiological activities of the cells to a state of tension, so to speak, where the slightest alteration in their media would produce a change and a registration, impression or modification, in the form of increased vital resistance, which, under less favorable or imperturbing conditions, would have been unappreciated and caused no change. This feature in the history of the elementary cell finds its analogue in the well-known physiological law of complex organisms, wherein an impression or registration is always retained in direct ratio to its vividness below a certain stage incapable of actual injury to the organism. It is during this intense stage of heightened vital action that the cells are influenced by the specific factor, and it becomes indelibly impressed upon their future existence.

In this process, we understand how it is that a vaccination "takes" best and ensures the highest degree of protection when there is considerable vaccination fever. Indeed, in all successful inoculations of attenuated viruses, this reaction, either in a marked and rapid or a mild and protracted form, is considered an essential part of all experiments. That the specific substance is the cause

of the specific immunity may be illustrated still further by the experiments of Emmerich, Chamberlain, Pasteur, and others, who show, that while the tissue-extracts, chemical substances, and various internal and external influences will cause all of the phenomena of cell action, including chemotaxis, proliferation, and phagocytosis, when introduced into the tissues of an organism, yet this is only absolutely efficient or discriminative to a degree of producing complete and permanent immunity when the previous inoculations or attacks embraced the specific factor or substance of those micro-organisms with which the tests were made. In other words, that the various stimulants noted would only cause an increase in the general physiological powers of the cells; but they did not manifest a special or particular form of resistance, unless the specific substance had been used.

Without multiplying examples to corroborate this position as true, we are safe in saying that the cells of the body do become modified or developed through influence of environment just as all organisms, simple or complex, and that they retain these modifications as specific changes, since life itself is but the aggregations of external and internal media.

It is now in order that we trace those circumstances by and through which the cells preserve and transmit these modifications in the form of heredity. It is not necessary or practicable in an article like this to undertake the examination of the theories advanced in connection with heredity. We shall rest with the fact that there is such a process as heredity, and not undertake to discover or discuss its philosophy. Every one who has pursued embryological researches, or even read of them, cannot have failed to be impressed by that marvel of all marvels of an exceedingly minute portion of living matter, so small that a line would define it, passing by successive modifications into an organism so complex that a treatise is needed to describe it. Not only do the cells of the ovum and the spermatozoa originate and pass into a complex organism, reproducing the forms and features of its parents with their constitutional traits and peculiarities, but also the diseases, infirmities, tricks, and dispositions of generations and generations before. Consider what this implies. A microscopical cell, without the least trace of organs, not distinguishable from millions of other cells, nevertheless does contain within it the potentialities of a Newton, a Shakespeare, or a Napoleon. Each cell is *sui generis* a complete organism, and there can be no doubt that there is as much in this small structure beyond the reach of our senses or the microscope as there is in the vast universe around us beyond the sweep of the telescope. Hence it is no gratuitous hypothesis that the cell does receive and retain impressions.

Still how is it that these impressions are transmitted to the cell's successors as a special quality? The new or daughter cell, we should always remember, is not a *product* of the parent cell, but in truth is the old cell elongated or branched. The old cell divides and makes two or three cells. The same cell and substances which at first received the impress are still present and continue to manifest it. Were this not so, owing to the ceaseless change transpiring in the organism, traces of experiences—structural changes—would disappear, and there could be no memory, evolution, or progress of any kind. The cells receive, retain and transmit. They impart their *form* and substances to those which succeed them, and there is no gap but an elongation. That this is the case lies within the tangible experience of all in the formation of scar-tissue.

The original cells do not remain entirely and absolutely, but are constantly changing, and their places are being taken by others of their descendants. The injured cells retain and convey the mark of the injury to their successors for generations, and the "memory," modification, or molecular vibration is preserved and shown ever afterwards. Every kind of activity peculiar to living creatures or parts involves a change of structure, and the formation of the newly-generated tissue receives such an influence from the conditions under which it originates that all subsequent activity displays this impress. The same sum of external and internal environment, which once received a modification, now preserves it. The cell is but the expression of certain internal and external conditions of existence, and it alters with these.

Another and distinct class of data going to demonstrate this interpretation of the question of immunity, and that the factors of evolution and heredity are the true ones, is that found in connection with the clinical history, pathological anatomy, and sequence of the chronic or non-immunizing diseases. While it is true that the evidence derived from this source is of a negative character, still it is none the less convincing in its illustration of the importance and efficiency of phagocytosis and heredity in arresting and preventing disease.

Upon what grounds can we explain the feature of persistence or chronicity of a disease? If the proteids are set free in the organism, as before described, in all germ diseases, why is it that the cells in chronic disease are never carried up to a condition of resistance which would enable them to successfully antagonize and protect themselves against future encroachments from their etiological agents? If the micro-organisms are continually destroying the cells, and thereby setting free their constituents (as we know from the periodical fever and constitutional disturbances), which in turn cause the surviving cells to exercise their highest

and best means of defence, how is it possible that they should ever become chronic, as in malaria, rheumatism, and other diseases? Why do the cells, when brought into direct contact with the micro-organisms, never achieve and immunity, but succumb time after time? Manifestly, to discover the causes for this failure to accomplish immunity, we must understand the negative phase of the subject. As a fact, experience shows that every germ-disease selects and locates upon some particular seat or tissue from which it lives, flourishes, and proceeds to produce its deleterious effects upon the organism attacked. Another noticeable fact is, that the type, nature, and duration of a disorder are always influenced and controlled by the tissues attacked. This is true in so far that all germ diseases may be divided into those which occupy the *solid* tissues and those which occupy the fluid tissue—the blood. Among those of the first class we find the exanthemata, such as measles, smallpox, whooping-cough, and others. In the second we have malaria, rheumatism, dengue, relapsing fever, erysipelas, and influenza. Following this division still further, we find that the disorders of the first are all, or nearly all, acute or self-limited and immunizing, while those of the second class are chronic and non-immunizing in character. Guided by these distinctions, we find that there is an anatomical and physiological cause and basis for these discrepancies as to duration and consequence in germ-diseases. With these facts before us, we are warranted in assuming that these features are in some degree dependent upon the peculiarities of anatomical seat. It is necessary, however, that we shall be able to refer this assumption to some standard of appeal, in order to show that it has other grounds than those of mere analogy or active imagination. Let us turn again to the life-history of the cell, endeavor to trace its genesis as an element in the blood, and to ascertain if it be possible to explain why a blood-disease has no power of limiting disease or of conferring immunity because the foregoing factors, as described, in the conditions necessary for adaptation, retention, and transmission of impressions are absent or imperfect in their use. To do this will be to establish the theory of Metschnikoff both positively and negatively, and to demonstrate its authenticity to be almost certain.

Physiology teaches that the white-blood cells, the amœboid, leucocyte, or phagocyte cells, have their origin severally in the spleen, the lymphatic structure, and the marrow of the long bones. It is from these sources that they arise, enter the current of the circulation, and finally pass out, under a number of circumstances, to become fixed cell-elements in the solid tissue. This being true, it is evident that the white-blood cell has an anomalous origin, in that it is the product of a tissue histologically different and possessing no morphological or physiological resemblance to it. In this respect it occupies a position analogous to that of the ovum and ovary, and to the spermatozoon and the testicle. In the illustrations given in the history, environment, and destiny of the cell, when capable of taking on modifications from influences in its media, we saw that certain conditions were necessary for its accomplishment, and that heredity or transmission depended upon certain conditions. In the chronic diseases the specific agents have been demonstrated in a number of instances to occupy the blood exclusively, and clinical history corroborates this. It is here that they exist, flourish, and produce their peculiar poisons which affect the organism. This being true, the only resisting or bactericidal agents or agencies, with which they are brought in contact, would be the white-blood cells and the blood-serum. Now, it is a fact that while the white-blood cells do multiply prodigiously and fight vigorously, as is evidenced by the chills, fevers, sweats, and general disturbance of the organism, still the germs multiply and persist, the disease becomes chronic, and phagocytosis is unavailing. The cells or leucocytes multiply and destroy myriads and myriads of micro-organisms, and yet the disease persists. How are we to reconcile this process with Metschnikoff's theory of phagocytosis and vital resistance being one and the same? It is because the second and essential factor of all superiority and permanent exemption is absent. The heredity and acclimating influences are absent in the white-blood cells as such. Its existence in the blood is of an ephemeral nature and it originates *de nova*, having neither pride of ancestry nor hope of posterity as a resisting or bactericidal agent in the blood. It can never inherit, acquire, or transmit a superiority, since the conditions of existence upon which these depend are entirely absent in its case. They live, flourish, and destroy as leucocytes in the blood; but in this transitory character they do not remain, but pass out into the solid tissue when they and their past experience could never be of any possible service to those who come after them in the blood. The blood is to them now a foreign and remote locality, and under the conditions of their new environment has no possible influence upon them or they upon it. The blood-cell has the power of phagocytosis, but in a medium where everything is of a fleeting and transitory character, no accommodation can take place when the source of the supply is unlimited and the means of defence momentary in effects. Hence, the conditions of blood-diseases are such that no immunity can ever ensue, and the disease will persist unless the causes are all destroyed, or avoided, or artificial aid employed. *Having in this manner shown that it is the cells which acquire, retain, and transmit a superiority, and wherein they fail to do so, and the reason why*, we may

assume that a new quota of data has been added to the theory of phagocytosis. Thus, the entire series of facts and their interpretation are in keeping with the laws of development, evolution, and heredity, and the phenomena and philosophy of immunity are apparently explicable through them. Life, which seeks its own continuance, tends to repair itself without our help. It mends its spider's-web when it has been torn; it reinstates in us the conditions of health, and itself heals the injuries inflicted upon it. The wisest part of us is that which is unconscious of itself, and what is most reasonable in man are those elements in him which do not reason.—J. Wellington Byers, M.D., in *Climatologist.*

IMMENSE DERMOID CYST DEEPLY SEATED IN THIGH; EXTIRPATION; RECOVERY.

Very many, perhaps the majority, of dermoid cysts, other than those occurring in relation with the ovaries and their annexes, are met with in situations suggesting genetic relation with embryonic clefts, using this latter term in a very wide sense; but this explanation is not universally applicable, and the present is an instance of such exception, which, on account of its singularity, seems to deserve publication. A tall, stout, rather muscular brunette, aged forty-seven years, was admitted into Bird ward on Jan. 15th last, having an immense swelling in the inner part of the right thigh. It extended from the groin to one handbreadth from the knee, and it had a transverse girth equal to if not greater than that of the thigh itself. Near its lower end the overlying skin in a circular area of several inches was red, and the subcutaneous tissues corresponding to this were matted and œdematous. In the middle of this red œdematous area was a small ulcerated spot from which oozed a turbid, milky, inodorous fluid. Except within this area where the wave was damped by the overlying œdema, this great swelling everywhere distinctly fluctuated. By its great bulk and position, the tumor embarrassed the patient much in walking, giving her a very awkward gait, in spite of which inconvenience she had continued to work until the skin inflamed and broke, which finally obliged her to seek advice. When lying on her back, as in bed, with her lower limbs extended, the inner part of the tumor covered her vulva and rested on the inner side and the front of the left thigh. It was observed that during active contraction of the adductor longus muscle the tumor became firmer, evidencing its compression by this muscle, and it was further noticed that the limb having been passively abducted, in which attitude the tumor rested flaccidly on the mattress, contraction of the adductor magnus caused the tumor to rise up off the bed and made it tense. At the upper and inner part of the tumor the adductor gracilis was traceable on to its surface; whilst lower down the front and inner part of the tumor was obliquely crossed by the sartorious. The finger-tips could be pressed down between the upper border of the tumor and the brim of the pelvis, so making it evident that the tumor did not extend under Poupart's ligament. The patient's account of the tumor was remarkable. It had existed from her childhood. In her eleventh year, the swelling being then as large as a small orange and at the "top of her thigh," her mother sought medical advice for it, and being told that any operation for its removal would be dangerous and could not be undertaken without risk to the child's life, she later exacted from her a promise that she would never permit any operation to be performed upon her. The patient had therefore uncomplaingly borne with the increasing inconvenience until at last her condition became unendurable.

Fluctuation was so apparent that of the cystic nature of the tumor there could not be any doubt; and the nearly equal distinctness of the percussion wave through the great swelling in every direction established its unilocular character. The character of the fluid oozing from the little opening described showed that sebaceous material was one of the contents of the cyst. The differential diagnosis was thus narrowed to the discrimination between a sebaceous retention-cyst, or wen, and a dermoid. But wens can only arise where sebaceous glands are present; they are therefore superficially seated in intimate relation with the integument; but this huge cyst was plainly seated under the deep fascia, amongst the muscles, and this circumstance favored the supposition of its being a dermoid. Its locality, the thigh, though unusual for a dermoid, could not be taken to exclude this kind, since, although, as already mentioned in numerous instances, dermoids show a distinct preference for the sites of embryonic clefts, into which it is conceivable that epiblastic tissues may become fixed and later give rise to cysts, yet other instances of dermoids have been met with where such mode of origin is less obvious—e.g., dermoids in the brain—and yet others have been recorded where such an origin seems quite excluded—e.g., dermoids in solid abdominal organs as in the liver. That this cyst had a pelvic origin was very improbable, seeing that its upper border did not transgress the line of Poupart's ligament; but a pelvic communication through the obturator opening could not be absolutely excluded and the possible existence of such was hinted by the ascertained relations of the cyst from the pelvis through the obdurator foramen into the thigh appeared so extremely improbable that it was not

deemed necessary to settle this by a vaginal examination, the patient being an unmarried person.

The practicability of a complete extirpation appeared highly probable, and since it offered the only prospect of relief, it was advised and was accepted by the patient. It was done on Jan. 17th, the removal of the cyst being effected through a long incision from the groin to the lower end of the tumor. The operation was a rather long one, owing to the close adhesion of the cyst wall to surrounding parts, and particularly along its outer side, where its close relation to the large vessels necessitated cautious dissection. At its uppermost limit, where the cyst had a leathery thickness and toughness, and which was presumably its oldest part, it was intimately attached to the periosteum of the front of the os pubis, just under the attachment to this of the adductor longus; and here, springing from the inner surface of the cyst, were two little tufts of black hair, Hæmorrhage having been arrested—a rather large number of arteries required tying—the wound was flushed with hot water and then with mercuric chloride, and its edges brought together with aseptic silk sutures. Three drainage-tubes were inserted. An attempt was made to keep the superficial and deep parts of the wound in contact by aseptic cushions and bandaging, and the whole limb was fixed by the aid of a long outside thigh-splint.

In spite of much care to secure and maintain an aseptic condition suppuration ensued at the end of a week. This seemed, probably rightly, attributable to much derangement of the dressings through the patient's great restlessness during the first days after the operation. The integumental incision closed in the greatest part of its extent during several weeks. On April 28th, the patient immediately, but troublesome sinuses persisted was sent to the seaside, whence she returned on May 12th, looking remarkably well. She then walked "with perfect comfort," and she said that her right leg was nearly as strong and able as her left. She has since resumed her occupation, cicatrisation of the entire wound has long been complete, and she says she has better health than she had enjoyed for years previously.—*Lancet.*

THE TREATMENT OF UNCOMPLICATED FRACTURES OF THE BASE OF THE RADIUS.—At the recent meeting of the American Surgical Association Dr. John B. Roberts, of Philadelphia, read a paper, arriving at the following conclusions:

1. Fractures of the lower end of the radius vary comparatively little in their general characteristics, because but one form is usual.

2. Muscular action has little or nothing to do with producing or maintaining the deformity.

3. Immediate reduction of the fragments is the essential of treatment.

4. Many of the splints devised for the treatment of this fracture have been constructed in ignorance of the pathology of the condition.

5. The ordinary fracture of the lower end of the radius usually requires no splint, and should be dressed with a wristlet of adhesive plaster or bandage.

6. When a splint is required a narrow, short, dorsal splint, fixing the wrist, is all that is necessary.

7. The method of dressing here advocated is the best because it annoys the patient as little as possible by avoiding cumbersome appliances, and permits free voluntary movements of all the finger-joints.

8. Passive motion is unnecessary until union has occurred and the dressings have been finally removed.

9. Good use of the wrist and fingers is early obtained, and the anatomical conformation is restored as well as, and perhaps better than, by other more complicated dressings.

10. Old fractures, which have been improperly treated by omission of immediate reduction, may with considerable success be subjected to refracture at the end of six or more weeks. At later periods re-adjustment may be possible only by osteotomy, which is a legitimate means of treatment. —*Am. Prac. and News.*

A NEW TREATMENT OF EXOPHTHALMIC GOITRE.—Independently of the classified methods, digitalis, the bromides, continuous current, hydrotherapy, belladonna, veratrum viride, and we will add, antipyrine (about 30 grains a day, associated with bromide of strontium 30 to 45 grains a day), Professor Dieulafoy has proposed the following treatment.

This treatment is based on the analogy which exists in a tuberculous case when suffering from hemoptysis or when threatened with the same. In these cases he administers ipecac., and under the influence of this medicament it diminishes in force and frequency, the erethism ceases, and consecutively the hemoptysis is arrested or prevented.

Or, in a case of Basedow's disease the primary indication is also to contract the cardio-vascular excitement; for this purpose M. Dieulafoy treats this affection according to the above principle. He associates ipecac. to the digitalis or opium, in pills composed as follows:

℞—Powdered ipecac., ... gr. ½
Powdered digitalis leaves, . . . gr. ⅓
Extract of opium, ... gr. ¼

For one pill. Four to six to be taken in the twenty-four hours.

He has treated by this method several patients suffering from exophthalmic goitre, and a considerable amelioration of all the symptoms has been

the rule; this was especially rapid and striking in two cases; certainly no other treatment would have given similar results.

The effect of this medication is noticed in a general amelioration of the symptoms of the malady appreciable at the end of a few days; very marked after several months and equivalent to a cure. The only inconvenience of this treatment is in certain cases of diarrhœa, which persists until tolerance is established.—*Times and Reg.*

A New Remedy in Diabetes Mellitus.—Professor Winternitz, of Vienna, recently drew attention to a domestic drug that he thought had been neglected. He related several renal cases that he had successfully treated by an extract made from the wild bilberry. His first experiments with the extract were directed towards the mucous membranes of the mouth, and finding it successful, extended his observations to the bronchi, bladder, and renal organs, where he met with equal success. He admitted having combined with the treatment the hydropathic applications, which were considered to have modified the avowed action and efficiency of the drug. Weil, of Berlin, has now added new testimouy to the record of value attributed to this plant, in assuring us that it has acted in a wondrous fashion in apparently curing a young man of diabetes mellitus.—*N. Y. Medical Record.*

Potassium Permanganate as an Antidote to Phosphorous.—At a meeting of the Royal Society of Physicians of Buda-Pest, Bokai (*Deutsche medicin, Wochenechrift*, Na. 47, 1294), as a result of chemical investigation and experiments upon animals, commended from one-fifth to one-third of one per cent solutions of potassium permanganate as an antidote in cases of poisoning by phosphorus. Phosphotus in the presence of porassium permanganatae is converted into innocuous orthophosphoric acid in the stomach, with the development of manganese chloride. Poisoned dogs thus treated were saved; untreated dogs died. Even one per cent. solutions of potassium permanganate exerted no injurious effect upon the coats of the stomach. —*Western Med. Rep.*

The Origin and Seat of Epileptic Disturbance.—As the result of painstaking and long-continued observations, and of ingenious deduction, Horsley (*British Medical Journal*) concludes that, whatever the part first attacked by the epileptogenous agency, the principle seat of disturbance in a general or idiopathic fit in the cerebral hemispheres, and especially their cortical layer. The condition of the cortex during the paroxysm is one of congestion and not of anæmia. In all probability the cerebral cortex is actually the point of origin of the disturbance.—*Med. News.*

THE MEDICAL DEFENCE ASSOCIATION

MEET THE MEDICAL COUNCIL, WITH SATISFACTORY RESULTS TO BOTH.

At the request of the President of the Medical Council, a meeting was held, between the Legislation Committee of the Council and a Committee of the Medical Defence Association, in the Council Hall, corner Bay and Richmond Streets, Toronto, on the 29th ult., with the view of adjusting the differences that exist between the Defence Association and the Council.

There were present on behalf of the Council:—Drs. Fowler, Williams, W. T. Aikins, Geikie, Bergin, Johnston, Britton, Day, Thorburn, R. B. Orr.

The following members of the Defence forming its Executive:—Drs. Meacham, Sangster, Armour, White, Coburn, McLaughlin, Comfort, Eastwood, Hutchinson, Hamilton, Corbett, Bingham, J. Gunn, and Mitchell. Dr. W. H. B. Aikins, editor of *Ontario Medical Journal*, and Dr. Wylie, M.P., were also present.

In opening the meeting, Dr. Williams said, that suggestions for a settlement of the differences between the Defence Association and the Council, would be entertained by the Legislation Committee.

Dr. Fowler said, he had called this meeting together on his own responsibility, to see if a settlement of the differences could not be agreed upon, and if an agreement was come to, it would be carried into effect. On enquiry, he had found much dissatisfaction throughout the Province at the action of the Council on certain matters. He called on the meeting to elect a chairman.

On motion of Drs. McLaughlin and Armour, Dr. Fowler was elected chairman.

Dr. Meacham wanted to know how far the Council was prepared to meet the Defence Association on the lines of the Bill he had presented at the last session of the Legislature? If the Association received certain concessions, they would be willing also to concede certain points.

Dr. McLaughlin said there were two points on which the Defence Association were determined to have redress. These were the re-organization of the Council on a more representative basis, and the abolition of fees. They also wished the power

of determining contested elections taken out of the Council's hands, and students' fees reduced. They wanted to know how far the Council's were prepared to meet them on these matters.

Dr. Williams replied, defending his action, and the Medical Act.

Dr. White—Does the Legislation Committee consider the present Medical Act perfection ?

The President—No.

Dr. White—Then how far will you go towards remedying these imperfections ?

Dr. Williams said there were differences of opinion as to what the so-called imperfections were. With regard to representation on the Council, the Legislature had forced representatives on it who were not wanted. The Council was unanimous in the opinion that there were schools represented that had no right to representation. The universities and teaching bodies should be represented.

Dr. Comfort said he was willing to compromise on other matters, but there was one thing that must be wiped out, that was the penal clause relating to the non-payment of fees.

He therefore moved, seconded by Dr. White, "That this meeting is decidedly of the opinion that Sec. 41 a, and the sub-sections thereto, of the Ontario Medical Act should be repealed."

Dr. White said the Defence Association would never rest until this clause was struck out of the Act.

Dr. Hutchinson said he had been sent to the Defence Association meeting from London to express the firm resolve of his fellow practitioners, more than 40, to have the whole fee and all such regulations abolished (applause.)

Dr. Britton wanted to know if the Defence Association thought any fee necessary. The old method of collecting was ineffectual. He thought it well to wipe the fee out altogether, but the Council was in debt and he didn't see how it could do without it until it was out of debt. When the property had risen in value the fee would not be necessary.

Dr. Sangster said the members of the Association were unanimously of the opinion, that this fee was not necessary, but that the legitimate assets of the Council were sufficient for its support. The Defence Association advocated the selling of the real estate in which the Council had speculated.

The property could be sold for...	$100,000
There was a debt of.....	60,000
This would leave.....	40,000

This would secure a lease in perpetuity of similar premises to those at present occupied, or even of the present structure, if properly disposed of.

Dr. Williams said the property might have been sold some years ago for that amount, but not now, and there was no certainty the money would find profitable investment. The method of collecting the fee was considered by some as harsh, *but the method of dealing with murderers was harsh, and so was the method of dealing with theives harsh.*

Dr. White pointed out to Dr. Williams, *the amount of the fee* was not in question at all.

Dr. McLaughlan—Give us a representative Council, and it will be given all the money it wants (applause.)

Dr. Armour, in discussing the necessity of an annual fee and retention of Sec. 41 a, for its collection, reviewed at length the financial statement issued by the Council, showing from it, that the necessity of the fee had been created by the Council by its investment in unnecessary real estate. In estimating the cost of carrying the building, he showed from the financial statement that :—

The building had cost.....	$96,390
After deducting the mortgage of	60,000
The investment account is.....	36,300
The interest on investment and mortgage at 5% amount to....	4,891
In addition to the interest account the cost of maintenance for the year was.....	4,510
Embracing caretaker, elevator-man, commission on rents, fuel, water, gas, insurance, repairs, taxes, and legal service, making the total yearly cost of carrying the building..	9,329
Now deduct from this the income from rents.....	4,099
Making the net cost of carrying the building last year.....	5,232

It was estimated that when the building was all rented, the income from it would be $7000, but as the cost of the maintenance for the past three years had increased about 36%, the income in the same time from rental, had not increased even to 6%. Even if the estimated rental was obtained, the cost of maintenance would so far exceed it, that to keep it up would be much more expensive than at present.

Referring to the receipts and expenditure of the Council for the past year, by omitting the annual fee and real estate speculation (both of which are deemed an unnecessary incumbrance), he drew attention to the fact, that the receipts alone from registration and examination fees amounted to $12,872, while the necessary expenses for the year (omitting building account) were $7,441, leaving to provide building accommodation $5,431 ; one-fifth of which should be ample for the purpose. The net cost of carrying the building,

according to the statement of ex-president Williams, in his annual address was $302 ! while the financial statement of the Council shows it to be $5,232.

The Council has sent this address, containing this false statement, as well as others, three times to each member of the profession and at the profession's expense.

It ill becomes a person falsifying figures in this reckless way, to presume to lecture those who honored him with their confidence as their representative and the members of the Defence Association, upon the principles of honesty, regarding the payment of an annual fee, for him to squander in a useless speculative enterprise.

The Council should free itself of its real estate, even if it did not bring more than the face of the mortgage, and save the $5,000 a year expended in carrying it.

This would remove the necessity of the recent resolutions of Dr. Williams' Council about the annual fee, and also permit the lowering of the students' fees.

Dr. Williams said he had not the opportunity of referring to the books of the Council, when preparing his address. The figures given, he had received from others (the Registrar and Treasurer) and he had uttered them, believing them to be correct. This fee was like any other honest debt, and honest men pay their debts.

Dr. McLaughlin said he was sorry Dr. Williams had seen fit to brand certain members of the profession as dishonest, because they differed from his views, and had refused to be assessed by a *Council over whom they had no control. Less than 100 men control the election of 14 members.* The other 12 members are elected by the 2600 men throughout the province. He would refuse to pay a farthing of fees, until the Council was made more representative.

If the profession were given control of the Council, they would gladly pay the fees, whatever they might be. In addition to taking fees from the profession against their will, the Council exacted from every boy or girl coming before them for registration, $100, whereas the cost for the same in New York was only $25.00, and in England $35.00. The Council was extravagant. It had spent illegally $96,000 in the building, on which there was a $60,000 mortgage.

The $36,000 investment would have furnished all the necessary building accommodation for years to come.

The members of the Council had paid themselves out of the funds, $3.50 a day hotel expenses, illagally. A journal had been subsidized, and will likely be run in the interests of the Council, with the funds of the profession. The Medical Defence Association would never consent to the fee being enforced in the obnoxious way attempted. The Council had taken into their hands a law, the enormity of which was not equalled by any other society in the Province or elsewhere.

Dr. Aikins, the Treasurer, said the finances of the Council were now in better condition than they had been for many years.

Referring to representation of schools in the Council, he said the schools had vested rights and would not give them up without a struggle.

Dr. Bergin thought it was a great pity their dirty linen should be washed in public. The members of the Defence Association should consider that perhaps the members of the Council were actuated by honest motives. The building had been handed down to the present Council as a legacy from former ones, some of whose members were raising the outcry against it to-day. The Council was trying to meet the views of the Defence Association. Referring to the charges of extravagance, he said that coming from those who made those charges they were unparalleled nonsense, for those people never paid a cent to the support of the Council.

A voice—No, nor never will.

The Defence Association being asked, then set forth their demand as follows :—

1. That Sec. 41a, be repealed.

2. That the matter of annual fees be held in abeyance until the profession is properly represented in the Council.

3. That the universities with teaching bodies, viz., Queen's, Toronto, Trinity and Western University, have one representative each, and the profession seventeen.

4. Protested elections be referred to the County Judge.

The meeting of the joint committees then adjourned.

The Legislative Committee met immediately afterwards and agreed to the following :

1 We consent to 41 a. remaining in abeyance until after the next election and the electorate pronounce upon it.

2. We do not consent to suspend Sec. 27, but will still rely on the honor of the profession to pay the fee.

3. We will favor adding five additional territorial representatives, making 17.

4. We will not object to institutions, which neither teach nor grant degrees, being deprived of representation.

5. We are in favor of protested elections being referred to the Senior County Judge in the division in which the election took place.

Prof. Hare says that as a circulatory depressant, veratrum veride is a much safer remedy than aconite, as in large doses it is an emetic.

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TYPHOID FEVER.

During the fall months, typhoid makes its presence known in nearly every part of this continent, and almost every practitioner of medicine is watching the course of one or more cases of the dreaded malady at the present time. The etiology of the disease is still shrouded in mystery, although the researches of many notable scientists makes us hopeful that the specific organism, to which typhoid is no doubt due, may be isolated at an early date. For some time "Eberth's bacillus" did duty as the causative agent, but strong doubt has been expressed as to the correctness of the view.

The germ, whatever it may be, seems to exist for the most part in contaminated water supply, the dejecta of patients polluting the lake and river water of large cities, and soaking through the porous soil surrounding privies in country places, thus entering neighboring wells, where the drinking water is used. Thus we see the great necessity of boiling the liquid used at the present season, or whenever the disease exists in the locality. What is known as "sewer gas," in many cases looks to be the source of trouble, and frequently enters houses from some deficiency in proper plumbing, or sewer connections.

It is commonly supposed that sewage becomes oxidized and rendered innocuous after being carried a certain distance by running streams, but it is altogether probable that any organisms of disease, if present, are not destroyed in that manner. A peculiar, and scarcely to be explained, feature of typhoid, is its existence in our far Western country. The writer has met with dozens of cases, originating in cow-boy camps, mounted police barracks, ranches, and on the open prairie, where every possible apparent condition of cleanliness existed; where the water used was procured from large, rapidly-flowing rivers, uncontaminated by sewage, the air constantly changing, owing to the wind storms which prevail in the country. The name commonly given to the disease was "mountain fever," and some practitioners declared that it was not typhoid, yet the cases all presented the characteristic progress and symptoms of that disease, the deaths which occurred being due to hæmorrhage, or peritonitis. Four perforations and five *post-mortems* made by the writer, revealed the usual pathological changes incident to enteric fever, namely, enlargement of the spleen, swelling and ulceration of the Peyerian patches, and solitary glands, all of which facts cause typhoid to present the appearance of a continuous malarial disease, the germ entering the air and water from decaying vegetable matter washed down by the mountain streams.

As to the symptoms and course of typhoid, any remarks would be superfluous, yet we cannot but utter a word of warning as regards treatment. Of thirty-five cases treated by the writer in Alberta, where nursing and careful supervision of the dietary could be made, every case made a recovery, exept two, in both of which antipyrine and phenacetin was used, and only in moderate doses, compared with those usually given, therefore, we have come to the conclusion that neither of those drugs should ever be used, their powers of depression acting upon an already lowered condition of system, rendering them highly dangerous. This being a self-limited fever, everything depends upon the thoroughness with which the nursing is carried out. As to medical measures, nitromuriatic acid in small doses acts very beneficially to cool the parched mouth, the acidity causing an increase in the flow of the saliva. Tr. hyoscyami and camphor water, with or without pot. bromide, as a means of procuring sleep, after other means, such as sponging have failed, whisky or other alcoholic stimulants, when the pulse lags, and the tongue becomes dry and brown, but we do not believe in more than six ounces of whisky in the twenty-four

hours, any more than that quantity only increasing the debility of the patient, the habit of ordering twelve to sixteen ounces of liquor in the day being sufficient to bring a healthy person to the verge of delirium tremens if kept up for weeks, as it is sometimes done in typhoid fever. With these few remarks and trusting our readers will realize the danger of too active medical interference in these cases of disease, we bring the subject to a close.

DIGESTIVE DISORDERS.

In the second volume of C. A. Ewald's work on Digestive Disorders, which treats of diseases of the stomach, he gives a formula for the administration of iron which seems to combine in a high degree the merits of ease, absorption, non-irritability, and inexpensiveness. He says that the most delicate stomach can assimilate it, as it is an albuminate of iron made by adding to an egg-water (white of egg, one part; water, five parts) enough tincture of the chloride of iron to make a two % to five % solution, thus.

℞—Tinct. Ferri. . . . . ʒj. = part one.
Aq. albuminosæ. . . ʒvi " 48
M. Sig.—ʒj p.c. ex. aq. sum.

This gives the tincture only in 1¼ minim dose. The expense of such preparations as Pizzala's Peptonate of Iron is thus avoided and the same good end attained.

In the same volume Ewald treats of rectal alimentation in an original way, to which his clinical experience certainly should give authority. He declares that peptonizing nutrient enema a is unnecessary and for patients of the wealthier class, orders them to be prepared as follows :—a pinch of best flour is cooked with a half cupful of a twenty % solution of glucose, and a wine-glassful of good claret added. When this has cooled, so as not to coagulate the albumen, two or three eggs are beaten smooth, with fifteen gr. of sodium chloride to each egg, and a tablespoonful of water added to them ; the egg is then poured slowly in and well stirred, the whole to measure not over half a pint. For the poor, or in hospital practice, he orders three to five eggs beaten smooth, with fifteen gr. common salt to each, in five oz. of fifteen % or twenty % solution of glucose, adding mucilage of starch, if necessary, to thicken it. Whichever enema is ordered, it should be preceded by a warm water enema of eight oz. or so, for cleansing purposes. When this is fully expelled and the gut is in a quiescent state again, the nutrient enema is given, the patient being in the dorsal or left lateral position, and retaining that position for some time afterwards. He insists on the introduction being very slow ; if possible by gravitation, and allows no unyielding metal or hard rubber nozzle to be used, as too irritating where a more or less prolonged period of rectal alimentation is in prospect. He also insists that the enema should be placed as high as possible in the rectum, and uses a large soft catheter or an œsophageal tube, with large openings, and carried well up. The glucose is a most rational and efficient substitute for the starches, which for the time being cannot be given by the stomach.

A MATERIALISTIC VIEW OF SEXUAL IMPOTENCE.

A paper on this subject was read by Dr. Bransford Lewis, of St. Louis, before the recent meeting of the Mississippi Valley Medical Association, at Cincinnati. After calling attention to the lack of unanimity, definiteness or precision with which the pathology of sexual impotence was viewed by the profession in general, each physician treating such cases with his favorite aphrodisiac formula, with a vague idea that the generative powers needed stimulation into renewed activity, the author offered what he claimed as more rational views of the subject, based on the physiology and pathology of the parts affected.

Physiologists, he said, taught that erection, that pre-requisite in the male organ for copulation, was established by an active increase in the amount of arterial blood flowing into the penis, together with a co-incident and abrupt decrease in the amount of venous blood flowing out of it ; that the influences which stimulate to these processes come from the erigent nerves of the spinal genital center. Tracing these physiological sequences still further back, it was known that such erigent nervous influences originated in three different localities of the organism : (1) in the brain ; (2) in the spinal chord ; (3) at some part of the periphery. Illustrations of these parts of the body, as such erigent sources were seen in (1) the man who gets

an erection from viewing an obscene picture (originating impression in the brain); (2) the painter, whose spine is injured by a fall, and who gets prolonged priapism therefrom; (3) the masturbator, who arouses erection by friction of the penis, scrotum, etc.

Therefore there were three sources of primary origin for erection; and, conversely, if either of these was diseased, the organism was liable to lose it as an erigent center. And if the conducting mechanism became disordered, the same result was liable to ensue. Our aim, then, should be to study the conditions that produce disorder of these four parts of the economy. Using the classification of cases of impotence which he thought most convenient—that is, organic, psychic, and symptomatic—the author confined his discussion to the latter variety. Noting, but not dwelling on, the various debilitating influences, such as diabetes, consumption, fatigue from either mental or physical overwork, sedative medicines, etc., as factors in the production of male impotence, Dr. Lewis wished to bring into especial prominence the relationship existing between impotence and such causes as masturbation, excessive sexual indulgence, chronic gonorrhœa and other directly genital affections.

Since the prostatic urethra was the sensitive area, the focal point, of nervous impressions on the genital system; the seat of the pleasurable sensations in intercourse; and the point to which by virtue of its intimate nervous relationship with the various other parts of the genital apparatus, irritations from them were referred, it was the point which naturally bore the brunt of abuses or disorders of these parts. So that in cases of organic stricture, of prolonged or adherent prepuce, etc.; of sustained (especially ungratified) sexual excitment, of repeated masturbation, chronic urethritis, etc., it was natural to expect disease of the prostatic urethra as a result. And when it was known that disease of the prostatic urethra was, in turn, capable of so deranging the spinal genital centre as to deprive it of its power of sending out the nervous influence previously mentioned as inciting erections; in other words, that disease of the prostatic area was capable of depriving a man of his virility, then the key to impotence from these disorders and habits was furnished, and paths for appropriate treatment were supplied. The rational plan for therapeutic action, consequently, was based on, first, the removal of the habit or disease that was producing the disordered prostatic urethra; second, the remedying of the prostatic urethral inflammation, and in that way restoring the health and functioning capacity of the genital or erectile center in the spinal cord.

The mode of conducting this plan of treatment was detailed, resort being had to the use of antero-posterior urethral irrigations of astringent (preferably zinc) solutions; of deep urethral injections of silver nitrate solutions in progressively increasing strengths; the intermittent passage of increasing sizes of steel sounds; endoscopic treatment; the psychrophor, perineal douches, etc. In the author's opinion, it was manifestly improper to give aphrodisiacs in such cases, since they excited erethism by congesting the genital organs—an effect directly opposed to the one desired for an inflamed posterior urethra. The end aimed at was the restoring of the health of the affected parts rather than goading them into unnatural activity with unnatural stimulants.

THE MEDICAL DEFENCE ASSOCIATION OF ONTARIO AND ITS OBJECTS.

To the Editor of the CANADA LANCET.

DEAR SIR,—I have been asked to state briefly the objects of the Medical Defence Association. The Medical Defence Association consists of a goodly number of leading practitioners throughout the Province, among whom is to be found past members of the Medical Council, members of Parliament and others who have taken an active interest, and been identified with many of the most important movements in the progress of our profession in the past.

Necessarily when circumstances arise which justify the union of such a member of the profession for some definite concerted action, it becomes the duty of every one to make inquiry into the conditions which provoke such actions. To these our *confrères* are invited to enquire.

The objects of the Defence Association are to secure the removal of recent amendments to and other sections of the Medical Act, which they believe to be objectionable to the best interests of the profession in many ways—such as the old section No. 27, giving power to make a limited tax

annually upon all who pass the Council's examinations, for that body's proper support; the recent action of the Council doubling this same disputed fee, and currrently known as the "double or quit" resolution; the issuing of a yearly license called the "Pill Pedlar's Certificate" to practice upon conditions which the Defence Association consider intolerable, as also the Council's action in placing in the hands of a single individual, one of its employees, the autocratic power, under certain circumstances, of cutting off the professional head of every practitioner in the Province.

The Defence Association also voice that latent conviction in the profession which has been forcing itself more and more strongly to the front every Council election, that the present number of elected members (12), the number 2,800 of us hope in, is too small, while 15 are sent by the votes of less than 80. These 12 are insufficient in influence or strength to rule the Council. When it comes to a question of Medical School interest against that of the general practitioner, they invariably succumb to the mixed blandishments and snubbings, the alternate hospitality and cool indifference, practised so skilfully on them. The result follows that the Council is ruled by the teachers sent there by bodies not representing a tittle of the interests of the profession, and often opposed to them; that it is desirable to increase the number of elected members from 12 to 17; that all election disputes be referred to the County Judge, and not to a member of the profession; that, however justified past Councils may have thought they were, in involving the profession in immense expense of the present building, or all the pressing need of funds, which the Council says exist, though the Treasurer states the contrary. It is claimed by the Defence Association such a condition could not exist, if it really does, if proper financial skill had been used. That the duty of this Council was not to attempt extorting from students and the profession, but to relieve them of the burden of this building, year by year growing more irksome, and cut down the expenses wherever possible.

They hold that the Council should have only one Confirmatory Final Examination; that tests of the progress of a student are nothing to the Council, and may be safely left to the teachers of medical subjects, who will take good care that students go fully prepared to the Council's final test; that so many examinations are needless, expensive and vexatious; that neither the public nor profession are interested in the elementary steps of the students career in this regard; that universities having medical faculties engaged in active teaching, send one of that faculty as its representative to the Council annually, so long as that faculty is actually teaching with a full staff; that this representative will assume in his person, the duties performed by the two representatives heretofore sent from university and medical faculty; that no one will be received from any Senate, not approved of by its medical faculty; that no teacher in any university or medical school, nor one holding any position upon any faculty, nor connected in any function with the staff of any school where medical students are being taught, shall *hold any office whatsoever* in the control of the Council. That the term of office for the elected members be reduced from five to three years. That all notices of motion relating to any change in existing laws or regulations, given at the final meeting before the term of the then Council shall expire, shall be published in an Ontario medical journal, and accompany every official notice of that election, whenever or however printed or sent to the profession, that the profession may have full notice of all such matters, and their opinions expressed by their votes at the election.

There are many other matters—the great tax on students for examinations, the needless number for the purposes of the public or profession, the degree. which the ex-President Williams states so explicitly, the graduates receive no value for; the functions of the various offices, the effort to make the Medical Council, the exact reflex and power of the whole profession, to do away with all factors of antagonism, which have made the Medical Council appear more like a tyrant in the eyes of the profession than a righteous and powerful protector. In the carrying out of these briefly expressed and other much needed repairs, all who believe it their duty to join hands with the Defence Association will be welcomed.

Believe me, yours truly,

Oct. 6th, 1892. J. E. WHITE.

To the Editor of the CANADA LANCET.

DEAR SIR.—Not having had an opportunity to correct the proof for my article in your valuable journal for this month, permit me in this way to make the needed corrections.

Page 42, 4th line from the bottom, "Fig. 8 is Fig. 7 after treatment," should read "Fig. 8 is Fig. 1 after treatment."

Page 43, for the word "stern" read stem. In 14th line from the top, for the word "bear" read bend, and follow by a comma.

Yours truly,

B. E. MCKENZIE.

14 Bloor St. West,
Toronto, 10th Oct., 1882.

GOLDEN RULES OF SURGICAL PRACTICE.—*Continued—(Times and Reg.):*

HERNIA.—Never treat a case of vomiting without inquiring about hernia and examining abdominal rings.

Do not diagnose a "strangulated" hernia without first feeling, in the male, for each testis.

Never be satisfied with the reduction of a hernia without putting your finger fairly into and through the ring, and ascertaining by comparison of the two sides that no unnatural fulness is left.

Remember that no age is too young for a truss, and that no hernial protrusion should be without one.

In cases of strangulated hernia, if you are in doubt as to the advisability of operating, do not hesitate, but operate.

Do not hesitate to return the gut in herniotomy in all stages of inflammation short of gangrene.

Never procrastinate in cases which will certainly require colotomy.

JOINTS.—Do not be hasty with a knife in dealing with fluctuating swellings near a joint.

[There are changes in the synovial membrane which produce thickening and suppuration, which can with difficulty be distinguished from an external circumscribed abscess.]

Never forget that synovial tissue of thecæ embracing tendons, may pour out a considerable amount of fluid or even pus.

[The accumulation of fluid in a joint or in the layers of the synovial membrane, or in tendons and bursæ, rarely affect the integument. Therefore, unless there is external redness never use the scalpel hastily.]

Never probe the joint in clean cut wounds opening a joint, unless a foreign body is known to be lodged therein.

Always persevere with rest and counter-irritation in disease of the shoulder joint as long as there be pain produced by motion, but no longer.

[Too long confinements is apt to produce adhesion of the lower part of the capsule, and to permanently deprive the patient of the power to raise the arm.]

Always trace all sinuses near the shoulder to their source, because the tendons often direct the pus to some point distant from the joint.

Always consider the chance of subacromial bursal disease before you diagnose disease of the shoulder-joint.

Do not hesitate to aspirate a joint for diagnosis, but remember it is criminal to do so without strict aseptic precautions.

Never neglect to put all strumous joints at rest.

[Rest should be maintained for three months after all signs of disease has vanished, and active exercise must even then be very gradually renewed.]

Never neglect early movement in chronic rheumatic arthritis; never allow early movement in strumous arthritis.

(*To be continued.*)

PEROXIDE OF HYDROGEN IN GASTRIC DISTURBANCES.—A. N. Iakovleff (*St. Petersburg Inaugural Dissertation—Br. Med. Jour.*) has made nine experiments on eight subjects, of whom some were suffering from chronic gastritis, some from nervous dyspepsia, one from cancer of the stomach, and one from hyperacidity of the gastric juice, while the eighth was healthy. In all but two cases the patients were given a three per cent. solution of H_2O_2—four cubic centimetres before breakfast, dinner and supper. The patient with maglignant disease and the one with hyperacidity took a two per cent. solution, four cubic centimetres from three to six times a day. The following is a summary of the results of these experiments: (1) Under the influence of H_2O_2 the general acidity of the gastric juice and the proportion of free H C_1 invariably increase. (2) The proportion of lactic acid always decreases while in later stages of

digestion the acid disappears altogether from the gastric contents. This phenomenon should be attributed to the well-known antifermentative properties of H_2O_2. (3) The digestive power of the gastric juice is markedly intensfied. (4) In the case of hyperacidity (as well as in another case in the author's private practice) the administration of the peroxide was followed by a distinct aggravation of all gastric symptoms, while in all others, including that of cancer, marked improvement was observed—the appetite improved, the epigastric pain ceased, eructations and vomiting decreased or entirely dissappeared, the bowels became more regular, etc. The author further made experiments on frogs and dogs, his object being to elucidate the effects of H_2O on the circulation. The results agree pretty closely with those published by Guttmann and Schwerin, the essential point being that H_2O_2 is decomposed by the blood, and hence can give rise to gaseous embolism with its consequences, such as dyspnœa, dilatation of the cardiac cavities, etc. From these fact Iakovleff concludes that injections of H_2O_2 into the circulation for therapeutical purposes, as suggested by some authors, are absolutely inadmisable.

Means of Determining the Sex of the Fœtus in Utero.—Lassier (*Gaz. Médicale*) considers the theory of determining the sex by a fecundation just before or after the menses ridiculous. He says: "Before exposing my theory, which allows the accoucheur to determine the sex of the fœtus, let us establish first that in woman, as in all animals, there are two ovaries, of which one produces male germs, the other female germs, turn by turn, that is each in its turn. As the Creator has left nothing to chance, it cannot be otherwise. Besides this principle is amply proved by the ovipara, whose eggs are always paired. In the pigeon, the female lays two eggs, which hatch out a pair. With the canary and thrush the eggs are usually four in number, and are mated. If the eggs of the same hen are hatched, the sex of the chickens is equally divided, the same occurs in the case of the goose and turkey. This granted, let us apply the same rule to women, and we shall see that we have two means for the determination of sex. The woman emits an ovule every month, the ovaries produce each in turn; the germs are alternately male and female. A remarkable fact is that the period of gestation in woman is nine months, an unequal number. The same thing occurs in all uniparous animals; the mare eleven months; the cow, nine; sheep, five; in such a manner that while a female drops her young she sheds at the same time a germ of opposite sex. It is easy to understand why a woman who lies on her left side, has nine chances to two of having a boy, because in this position the ovary which produces the male ovules has more chances of its ovule being fecundated than the other, and *vice versa*. I have established that the procedure of ovulation alternates in the production of the sexes. This also permits us to determine the sex by calculation. If the woman is a primipara, the accoucheur has the *decubitus* for a guide. If it is her second or third pregnancy, he has only to find out the sex of the last child. If it was a male at term, the ovule corresponding to the lying-in was female, and so on. A woman becomes pregnant at the ninth month after delivery; if the last was a boy, this will be a boy also. If at the the tenth it will be a girl.

Santonin as an Emmenagogue.—On April 10th, 1892, I was called to see Mrs. A. B., aged thirty-six years, and, says Dr. Bergey in *Therapist*, found her in great agony from uterine colic. The pains had lasted for several days, and gradually assumed a graver form, notwithstanding the various domestic remedies which she had employed. Hot water bags were applied and frequently changed. Hot drinks were freely administered and frequently repeated, but without affording any relief. The pain was so severe that it was necessary to resort to large doses of morphine to get it under control. In the meantime a ten grain dose of santonin was administered. The menstrual flow became fully established by the second day after administering the santonin, and the patient rapidly recovered. To avoid such serious crises at future periods, I prescribed several ten grain powders of santonin, one to be taken at night, at the first approach of the menstrual molimen. In this manner the suffering has been warded off at each subsequent period, and menstruation established each time without any disturbance, to the profound gratifi-

cation of the patient. Mrs. A. B. is the mother of seven children, of highly neurotic temperament, and subject to these attacks on exposure to cold and dampness, or on becoming greatly fatigued. The attack described was brought on by exposure to draughts while over-heated. These attacks are, therefore, of the nature of suppressio-mensium, and the santonin relaxes the engorged uterus. I have used santonin in a number of other cases of similar nature, and in every instance with most happy results.

A Substitute for Decalcified Bone in Senn's Discs.—Baracz (*Centralbl. fur Chir*). states that in experimenting with Senn's discs, the idea struck him that decalcified bone might be replaced by some other and more readily available material, which could be used by the practical surgeon without much preparation, and consequently with less trouble. After trials of numerous edible vegetables, such as potatoes, turnips, and carrots, from which sections of firm, flexible, and moist discs can be obtained, the author found that the most suitable substance for his purpose was afforded by the Swedish turnip. Sections of this vegetable, it is stated, form a reliable material for use in gastro-enterostomy and in establishing intestinal anastomosis, and one which can be more readily obtained and prepared than decalcified bone. That sections of a fresh turnip present a trustworthy substitute for decalcified bone is shown by the results of the author's experiments on animals, and also the success of an operation for gastro-enterostomy which he performed on the human subject early in May. The result of this operation, which was performed for the relief of carcinoma of the pylorus, had been very favorable.

Lancing the Gums.—In the *University Medical Magazine*, Dr. H. C. Woods makes the following statements about this procedure: Clinically, I am absolutely sure that I have seen convulsions, sick stomach, great restlessness, fever and various other functional disturbances in young children, immediately cured by the use of the gum-lancet, after the failure of various other well-directed measures for relief. Theoretically, I am in acord with Dr. Kirk, in believing that Dr. Forchheimer absolutely misses the point of the matter, by his failure to understand that the good achieved is not due to the local blood-letting or to the relief of the inflammation of the gum, but to the removal of the backward pressure upon an extraordinarily sensitive, and, at such times, congested nerve-pulp. As was long ago pointed out by Dr. J. W. White, at the period of eruption the roots of the teeth are yet incomplete. "Instead of the conical termination and minute foramen, which characterize a perfected tooth, the aperture is nearly as large as the root itself, and thus when the sensitive pulp composed of connective tissue, blood-vessels and nerves, is in a condition of irritation because of the morbid activity of the process of dentition—augmented vascular and nervous action—there may be produced a hyperæmia sufficient, possibly, to cause the protrusion of a part of the mass from the incomplete aperture of the root, giving abundant cause for extreme constitutional disturbance."

I have myself seen a seemingly incurable epilepsy in an adult permanently cured by the removal of a persistent milk or first dentition tooth. Amaurosis and various other conditions in the adult, are well known to be the result of irritation of the trigeminal nerve by faulty teeth. How much more evil is to be expected from teeth irritation in the child!

In conclusion, I reaffirm that whatever the theory in the matser may be, I am positive that gum-lancing is a most important therapeutic measure. It is essential, however, that it should be thorough and with the object of dividing the dense tissues that bind down the teeth.

Slow Pulse.—Among the causes of slow pulse Dr. D. W. Prentiss, in *The Doctor's Weekly*, enumerates the following, saying that the causes which produce slow pulse may be classified as follows:—

1. Diseases or injuries to the nerve centres, producing either irritation of the pneumogastric or paralysis of the sympathetic (accelerator) nerves of the heart.

2. Diseases or injury of pneumogastric nerve, increasing its irritability.

3. Disease or injury of the sympathetic nerves of the heart, paralyzing them.

4. Disease of cardiac ganglia, by which the influence of pneumogastric nerve preponderates.

5. Diseases of the heart-muscle (degeneration), whereby it fails to respond to the normal stimulus.

6. The action of poisons, as lead or tobacco, either on nerve endings or centres. The poison generated in salt fish.

Also the poison of certain febrile diseases, as pernicious fever.

Another possibility is *malarial poisoning.*

A SMART HUSBAND.—*Stranger* (midnight)—"I should like you to go to No. 999 Suburb Avenue to see my wife."

Doctor—"All right. I'll be ready as soon as I can get my carriage. Wait and you can ride with me."

Doctor (two hours later)—"I can see nothing the matter with your wife, except that she seems pretty mad at being waked up."

Stranger—"Remarkable recovery, I must say. Here's your dollar."

Wife (five minutes later)—"Why in creation did you bring a doctor to see me?"

Husband—"The street-cars had stopped running, and it was cheaper than hiring a cab."

OSMIC ACID IN GOITRE has been employed by Auerbach. He used it by means of parenchymatous injections. The dose administered was five mill grammes and this was followed by a massage for fifteen minutes. After three weeks there was a diminution of one-half in the size of the tumor and the disappearance of the subjective symptoms.

RESORCIN is said to act admirably in cases of nausea and depression following a carouse. It is given in the dose of from five to ten grains in plenty of water flavored with syrup of orange peel, and may be repeated once or twice at intervals of half an hour. A single dose of ten grains is, however, said to be usually sufficient.

Books and Pamphlets.

A MANUAL OF OBSTETRICS. By A. F. A. King, A.M., M.D., Professor of Obstetrics and Diseases of Women and Children in the Medical Department of the Columbian University, Washington, D. C., and in the University of Vermont, etc. Fifth edition, 1892, with 150 illustrations. Philadelphia: Lea Bros. & Co.

This new edition makes the work a model of its kind, condensed so that every line tells, and apparently omitting nothing necessary in a scientific course of instruction in midwifery. The author is evidently a teacher. One is loth to encourage among students the habit of reading short works, especially on so important a subject as obstetrics; but in the 450 pp. of this text-book everything necessary is found for success in practice, and few if any would remain content without a larger book for reference after the ordeal of examinations is over. The chapter on version is most perspicuous, those on the mechanism of the various presentations admirable; the introduction to the anatomy and physiology of the subject is full enough for practical purposes, and the final chapter on obstetric jurisprudence excellent, though it would seem like a mixing of two subjects unually kept distinct in Canadian medical schools. Mention must be made of the peculiar conciseness and yet fullness of the chapter on the signs of pregnancy.

AN AMERICAN TEXT-BOOK OF SURGERY FOR PRACTITIONERS AND STUDENTS. Edited by William W. Keen, M.D, LL D., and J. William White, M.D., LL.D. Philadelphia: W. S. Saunders. 1892. Toronto: Carveth & Co. Pp. 1209. Price, $7.00 net, cloth; $8.00 net, sheep; $9.00 net, half Russia.

This work is an excellent one. Among the contributors are, Drs. Nancrede, Senn, Park, Pilcher, and others whose names are household words in surgery. We have had occasion to consult this book on several occasions since its arrival, and have always been well satisfied with the arrangment of the matter. It is up to the latest date. We gladly and conscientiously recommend it to both students and practitioners.

PICTURES FOR PHYSICIANS' OFFICES AND LIBRARIES. Prof. Billroth's Surgical Clinic at the Vienna General Hospital. Size, 24x32. Price, $2.00. William Wood & Company, Publishers, New York.

We have just received the above picture. It forms the last of a very interesting and beautiful series. They are exact copies, not photographs, of India proof engravings and oil paintings, painted on extra heavy paper, and suitable for framing.

THE CANADA LANCET.

A MONTHLY JOURNAL OF

MEDICAL AND SURGICAL SCIENCE, CRITICISM AND NEWS.

Original Communications.

THE WEIGHT OF THE BODY IN ITS RELATION TO THE PATHOLOGY AND TREATMENT OF CLUB-FOOT.*

BY A. B. JUDSON, M.D.

Orthopædic Surgeon to the Out-Patient Department of the New York Hospital.

I desire to present a few thoughts, of an extremely practical kind, relating to the treatment of talipes equino-varus. Beginning with congenital club-foot, it is well to bear it mind that there is a vast difference between a child recumbent and a child walking. While the child is in arms the case is yet free from the complications and difficulties caused by the falling of the weight of the body on the deformed foot. These twelve months, more or less, are the most important year in the history of the case, because, in this period, the foot is to be changed so that, when the child begins to walk, the use of a slight walking-brace, exerting only a moderate degree of force, will convert the weight of the body from a deforming to a correcting agent. During these months of recumbency, with the weight of the body out of the way, with all the tissues soft and formative, and the foot more than doubling in size with the growth of the child, there is every reason to expect to succeed in what we undertake, provided time enough be given to the case, and faithful attention to the details.

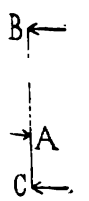

Fig. 1.

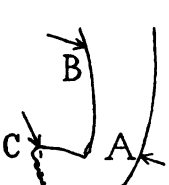

Fig. 2.

The apparatus which I have conveniently used to effect this reduction, before the child learns to stand, is a simple retentive splint which acts as a lever, making pressure on the outer side of the foot and ankle, at A, in Figs. 1 to 4, inclusive, and counter-pressure at two points, one on the inner side of the leg, at B, and the other at the inner border of the foot, at C. It is advisable to keep in mind that this simple instrument is a lever, because, if we know that we are using a lever, with its three well-defined points of pressure, we can make the apparatus more efficient than if we view it, in a more general way, as an apparatus for giving a better shape to the foot.

I use a little brace made of sheet brass, doing the work with a few simple tools. An advantage of doing the work one's self is that there is no room for doubt as to where the blame lies if the apparatus does not work well. Two curved disks, B & C, Figs. 3 and 4, are riveted to a shank, D, and thus is formed that part of the brace which applies the two points of counter-pressure, while, on the other hand, the point of pressure is brought into action by a third disk, or shield, A, which is drawn tightly against the outer side of the foot and ankle, and held in place by a strip of adhesive plaster, E, which includes the limb and the piece which connects the two disks, B and C. The disks are lined with two or three thicknesses of blanket, easily renewed, when necessary, with a needle and thread. These braces are so cheap and easily knocked together that it is nothing to apply new and larger ones, using heavier material for the shank as the child grows. In general, three sizes will be enough, the shanks being 12 gage $\frac{3}{8}$ in. wide, 14 gage $\frac{1}{2}$ in. wide, and 16 gage $\frac{5}{8}$ in. wide. The disks are conveniently made from 22 gage $1\frac{1}{4}$ in. wide. The rivets are copper belt rivets No. 13. A lip turned on the edges of the disks, with the flat pliers, gives stiffness to the thin brass and protects the skin from the rough edge. If more easily obtained, tin disks, light bars of iron or steel, and ordinary iron rivets, would doubtless answer.

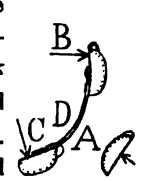

Fig. 3.

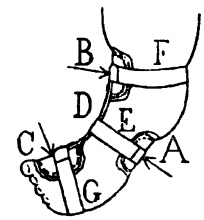

Fig. 4.

The brace is applied with three strips of adhesive plaster. The upper and lower pieces, F and G, Fig. 4, are simply to keep the apparatus in place, which they do effectively if ordinary gum plaster is used, while, by drawing the middle strip,

*Read before the American Orthopædic Association, New York, September 21st, 1892.

E, tightly over the shield, and straightening the brace from time to time, the deformity is gradually and gently reduced. At each re-application the brace is made a little straighter than the foot at that stage. This may readily be done by the hands, and then the adhesive strip is to be tightened over the shield, till the shape of the foot agrees with that of the brace. After a few days, the brace is to be made still straighter, and again re-applied, and made tight till another point of improvement is gained. The brace is applied very crooked at the beginning of treatment, as in Figs. 3 and 4, and is straightened from time to time, and a longer brace applied as the deformity is reduced and the patient grows. It should be removed every week, or two weeks, and an interval of a few days allowed for freedom from the brace, when the mother is advised to manipulate the foot constantly, using as much force as she will in the direction of symmetry. Manipulating the foot during these intervals is of great importance, as cases have occurred in which varus and equinus have been entirely overcome by the mother's hand alone.

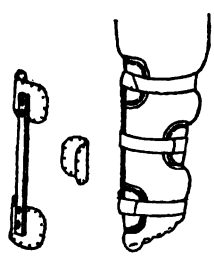

Fig. 5. Fig. 6.

By this simple and prosy treatment, carried out systematically and without haste, or violence, or pain, the foot, unless it is a frightful exception, may, with certainty, be changed from varus to valgus. At the same time, the tendo-achillis is lengthened till the position of the foot is near the norme, or at right angles with the leg, as the result of manipulation and giving the brace from time to time a partly antero-posterior action. Figs. 3 and 4 show approximately the shape of the brace at the beginning of treatment, Figs. 5 and 6 when the varus is reduced, and Figs. 7 and 8 when valgus has taken the place of varus. The foot, in this latter stage, may not hold itself valgus, when left to itself, but, with almost no force, and with one finger, it may be pushed into valgus; and in this condition it must be when the child begins to walk, and then another stage of treatment begins.

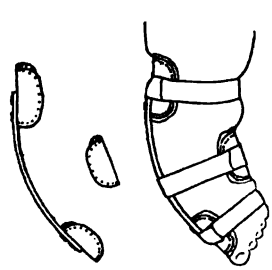

Fig. 7. Fig 8.

When the patient begins to walk we have a new difficulty. It is now seen that the weight of the body, falling on the tender and ill-formed foot, will, if not properly directed, defeat all our efforts. Let us, for a moment, consider the mechanical environment of the human foot. In the first place, the corporal weight, which the quadruped distributes among four pedal extremities, falls, in man, upon two. Again, the small floor area covered by the feet and their slight structure, seem unequal to the task of supporting the towering frame above them, which in some cases almost resembles a pyramid resting on its apex. And when we observe the effect of active locomotion we see weight and momentum combine in an apparent effort to crush and destroy. And, furthermore, when extraneous weights are added and the strain is prolonged, as in the case of the burden-bearer among savage tribes, or the infantry soldier on a forced march, the endurance of the foot excites wonder. It is not strange that the feet are subject to ailments: to blisters, bunions, ingrowing nails, hallux valgus, hammer toes, loss of the arch, weak ankles, painful affections of the metatarsus, perforating ulcers, osteitis, and the varieties of talipes. The wonder is that they are not permanently disabled soon after walking is begun, and certainly when the adipose tissue of the body takes on the development which accompanies age and good living. The gourmand, Savarin, said that, among the works of creation, the design of the human foot was a conspicuous failure. Considering the immense weight carried by the foot, it is evident, however, that only the most perfect natural adaptation of mechanics has enabled this insignificant member to perform its superlative functions, and that great caution should attend all procedures having for their object its artificial re-construction.

It is also sufficiently evident that the correction of club-foot by mechanical means, while the patient continues walking, is a problem beset with difficulty. We have, however, a luminous ray of hope and encouragement in the observation that, in talipes varus, there is an important boundary line between deformity and the norme. If the foot is held in some way, now to be considered, on the right side of this boundary line, each step forces

it in the direction of valgus, and the increasing weight of the child is a powerful force acting in the right direction, or away from varus, so long as the foot is held, though never so little, looking toward symmetry. It may be said that the child stamps his foot straight. If, on the other hand, the foot is held, or allowed to fall, on the wrong side of this line, though never so little, each foot-step is a blow, driving the foot more and more into the varous position.

This point may be illustrated by the hand placed with its ulnar border on the table. If considerable pressure be made on the table, by the hand so placed, it becomes evident that there is a boundary line between pronation and supination. If the hand is pronated, never so little, additional pressure will force the palm into pronation, which represents valgus in the foot, and if the hand be supinated in the slightest degree, additional pressure will force the palm into complete supination, which represents varus in the foot.

By the application of this idea, the weight of the body may be made a benificent, instead of a harmful, factor in the progress of a case of talipes varus, and the walking brace should be constructed with this in view. It should be made of steel, and by an instrument maker. One of its functions is to act as a lever, but the leverage is applied not chiefly to overcome the deformity by direct force, as in the retentive brace above described, but to hold the foot on the right side of the boundary line above mentioned, so that the weight of body may straighten the foot, or overcome the varus in a direct and forcible manner without general or local inconvenience.

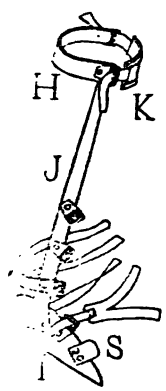

Fig. 9.

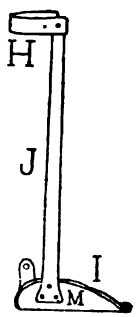

Fig. 10.

The walking brace consists, as usual, of leg-band, H, Figs. 9 and 10, foot-piece, I, and upright, J, riveted firmly together. A movable joint at the ankle should be discarded, as it undermines the lever by introducing an element of instability, and in this brace, serves no good purpose. Mild steel alone should be used, to facilitate alterations in shape, as point after point of improvement is gained, and to make easy the shifting of buckles and straps, as may be required, all of which may be done by the use of a few simple tools. The upright is to be on the inner side of the leg, as in Fig. 14. The upper part of the brace makes counter-pressure on the inner side of the leg, but it has another important function, in previously neglected cases, which is secured by the steel band passing across the back of the leg, to which are fastened two buckles for the attachment of piece of webbing, K, in Fig. 9, which passes across the front of the leg. The steel band should make no pressure on the limb, as its use is simply to furnish attachment to the buckles. A piece of webbing spanning the front of the leg in this manner, and carrying a pad, performs an important service in cases, like the one shown in Fig. 12, in which, from previous neglect, the varus has not been reduced before walking begins. It transfers a part of the weight of the body from the anterior part of the sole of the foot, where it interferes with the correction of the varus, to the upper part of the anterior surface of the leg, where it is powerless to interfere with the treatment. That the weight-pressure thus transferred is considerable, is shown by the callus and bursa, which appear where the padded strap crosses the leg near the tubercle of the tibia. This mechanical effect is similar to that of the brace, shown in Fig. 11, used in the treatment of paralysis of the muscles of the calf, resulting in talipes calcaneus.

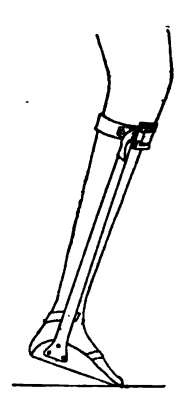
Fig. 11.

Fig. 12.

The upper part of the brace is also to be considered in another light, as follows: In previously neglected cases it is well to incline the upright 15° or 20°, or more, backward from the vertical of the foot-piece, as is shown in Fig. 9. Although correction of the equinus is postponed by this inclination of the upright, we are thus enabled to apply a better leverage against the varus, and when the varus is reduced, and the time arrives

when the equinus is to be corrected, this backward inclination of the upright is to be lessened from time to time, till the vertical is reached, as in Fig. 10, or till the upright has an inclination forward, allowing the corporal weight to fall more and more on the anterior part of the sole of the foot, and gradually lengthen the tendo achillis. The vertical upright, Fig. 10, is to be applied at once to patients in whom the deformity has been corrected before walking begins.

We will now pass to a consideration of the other end of the brace, the foot-piece, which is to be made of sheet steel, ranging from 18 gage, for a child learning to walk, to 13 gage for an adult. It has the usual tread, L, Fig. 13, and riser, M, Fig. 10. The heel-cup is formed by a piece of webbing, N, Fig. 13, passing behind the heel, from the lower part of the upright to a spur, O, Fig. 13, which projects upward from the back part of the outer border of the tread. Viewing the apparatus again as a lever, for the forcible reduction of varus, in a previously neglected case, counter-pressure is made along the inner border of the foot, and on the upper part of the inner side of the leg while pressure is made by one strap, or more than one, riveted and buckled to the foot-piece and the upright. But one strap is shown, P, in Figs. 13 and 14. This will be sufficient in the case of a child whose varus has been corrected before walking begins, but in a previously neglected patient, in whom the varus has yet to be reduced while the child is active on his feet, two, three, or more straps may be added, as shown in Fig. 9, partly encircling the foot, ankle and leg, the positions of the buckles and the straps being where they will assist most efficiently in opposing the varus, and holding the foot in the best position to receive the weight of the body. These parts of the apparatus may be shifted many times, with advantage, in the treatment of a given case of unusual difficulty, and, in addition, a most efficient agent for applying continuous pressure is found in a strip of adhesive plaster, Q, Fig. 14, sewed to a piece of webbing, R, the plaster partly encircling the foot and ankle, with a single tail, or two tails, as may be required, and the webbing being drawn tightly and buckled to the inner side of the riser. This device does more than simply to increase the amount of pressure; it also keeps the heel down on the tread of the foot-piece, and, more important still, it gives the foot a rotation outward, and thus directs the sole of the foot forcibly toward the ground, in the best position for making the weight of the body a corrective instead of a deforming force. The riser of the foot piece may also, in previously neglected and difficult cases, carry an ear, S, Figs. 9, 13 and 14, made of sheet brass, which is to be bent downward over the first metatarso-phalangeal joint, to prevent the inner border of the foot from overriding the edge of the riser. The foot-piece is to be lined with adhesive plaster, in several thicknesses if necessary, to prevent rust, and with a piece of leather fastened to the tread and spur with copper rivets, as shown in Fig. 10. In practice the details demand as much attention as the principles of treatment. The brace is to be applied over the stocking, the strap, R, passing through a hole cut in the stocking, and is hidden by the patient's trousers and shoe.

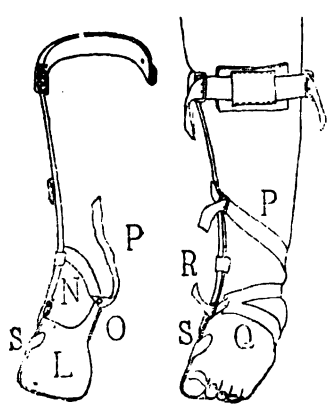

Fig. 13. Fig. 14.

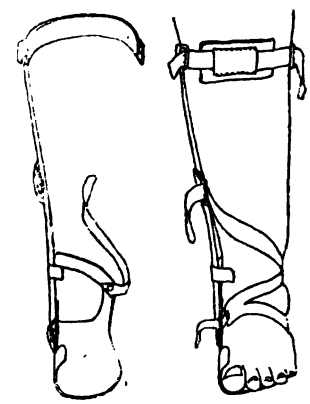
Fig 15. Fig. 16.

We will now consider the upright of the brace. It is a flat, tapering bar of mild steel, and when first applied to a previously neglected case, such as is shown in Fig. 12, should have a curve resembling that of the varous foot. The bar, though sharply curved, as in Fig. 13, should, however, be somewhat straighter than the foot, when the latter is forced manually into its best position. The multiple straps, shown in Fig. 9, should then be buckled and tightened daily till the continuous leverage has partly reduced the varus. The upright bar should then be somewhat straightened, and another point of improvement be gained, the patient in the meantime following his ordinary

pursuits without interruption. In due time the upright bar, and the foot itself, will both be straight, as seen in Figs. 15 and 16, in other words, the varus will be reduced. The upright should then be bent, from time to time, in the direction of valgus, as seen in Fig. 17, and the persistent and gradual effort resumed until the foot has been pushed, or pulled, or pried, over the boundary line, into the domain of valgus, as seen in Fig. 18. These efforts would not be necessary if the varus had been converted into valgus before the child had learned to stand. In very badly neglected cases, the interference of the weight of the body with the treatment may be prevented by the recumbent position, or the use of a high sole on the well foot, and the ischiatic or axillary crutch, until the varus has been materially reduced. In all cases, when the child is old enough to be docile, domestic instructi'n and drill in eversion of the foot, and in the proper management of the foot in locomotion, should be a part of the education.

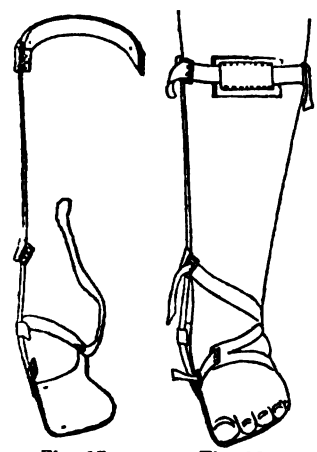

Fig. 17. Fig. 18.

As soon as the foot has reached the valgus shape, whether it be at the moment of learning to walk, or only after prolonged effort, in a neglected case, a curious effect will be observed. It will be seen that the outer border of the tread of the foot-piece is raised from the ground, as seen in Figs. 19 and 20, and that we have secured, in a convenient manner, the effect which is sometimes sought by building up the outer border of the sole of the patient's shoe. This is a welcome and powerful ally in our attempts to hold the foot in a favorable relation with the weight of the body and the ground.

The walking-brace has been above described as though its chief use were to reduce varus, which has become more or less confined by the habit of walking on the outer border of the foot. Strictly speaking, such cases should never occur. They are, however, too common, and always indicate that the child has been neglected from the period of recumbent infancy, when deformity of this kind is the most easily overcome. If the varus were always corrected before the child learns to stand, then the only use of the walking-brace would be, as shown in Figs. 19 and 20, to gently hold the foot in valgus, so that the weight of the body shall be sufficient to lead the child to grow up with a foot practically normal. As such a child outgrows the brace, a larger one is to be made, and, when three or four years old, the foot will, without the help of the brace, strike the ground so fairly that, for two or three years, all treatment may be suspended. The patient is to be observed from time to time, however, and, as the foot grows in its original inclination to varus, it will, after the lapse of two or three more years, have to be kept in proper position, under the rapidly increasing weight of the body, by a walking-brace adapted to its needs, for another period of two or three years. When the foot is full-grown it will be shapely in appearance and practically perfect in its ability to perform all the duty of a foot congenitally normal.

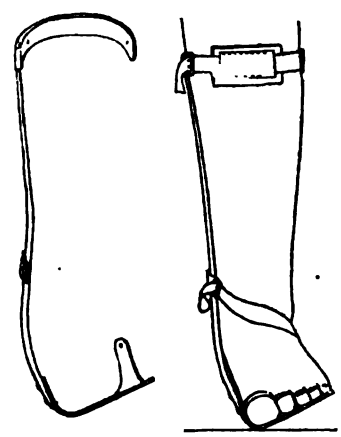

Fig. 19. Fig. 20.

Although congenital club-foot has been chiefly kept in mind in the above pages, the views expressed in regard to the influence of the weight of the body are applicable also to talipes varus of paralytic origin. In this affection, at an early stage, and before the foot has lost its flexibility, a simple walking brace is needed, as in Figs. 19 and 20, to properly direct the action of the weight of the body on the paralyzed foot. At a later period, if this measure has been neglected, and the foot has been allowed to become varus, and more or less inflexible, the case will require more attention and probably prolonged effort, with multiple straps and adhesive plaster, to carry the foot across the line between deformity and the norme, to the position in which the weight of the body shall be a correcting and not a deforming force.

A CASE OF ACUTE SUPPURATIVE PLEURISY.

BY H. S. CLARKE, M.D., LUCAN, ONT.

W. C., aged 24, white, a farmer's son, of strong muscular build and first-class family history, spent the 27th of last Nov. doing the ordinary chores about the farm buildings. He said he felt tired and dull. He went to bed early, and was awakened from sleep by a dull pain in his left side. I saw him early the next day, Saturday, the 28th Nov. His temperature was 102°, pulse 116, and respiration 40. He had pain in the left side, which was increased by cough and deep respiration. He was constipated, and had the usual accompaniments of fever. Physical examination revealed friction and slight dulness at lower part of left thorax.

In three days the temperature was 102½°, pulse 120, and respiration about forty. There was an increase of two inches in the measurement of the left side, the ribs were widely separated, there was flatness on percussion, and absence of vocal sounds over the lower lobe, with friction and subcrepitant sounds at upper chest. The impulse of the heart's apex showed itself to the right of the xiphoid notch. The 4th day the temperature was down 1°, and he felt somewhat better.

On the 10th day of the disease, the temperature was 99⅕°, pulse 80, and respiration 30. In a couple of days, his temperature began to go up again. His pulse and respiration became more frequent, and he began to sweat profusely. Day and night he was covered with perspiration. When he fell asleep, which was seldom, he would sweat even more. A constant dirrhœa, which would not yield to any of the usual drugs, took the place of the former constipation; a grain of opium every three hours, day and night, had only a slight appreciable effect upon it. As I have intimated he spent sleepless nights. His respiration was rapid, and the cough was troublesome, but he never spat up anything but white frothy mucus—no blood—no pus from first to last. The side was quite œdematous and bulging, with not much motion. The œdema was very marked from about 3rd rib to crest of ilium, attaining its greatest degree over the 7th and 8th ribs, in the axillary line.

I allowed this to run along for seven days, when with the temperature at 102½°, and pulse at 120, respiration 40, and no amelioration of the symptoms, I determined to aspirate. On the 19th day of the disease, I passed the aspirator needle in at three different places, and got only about ʒi, of what the microscope proved to be pus.

I could not understand why I could not obtain more, so I asked for a consultation. Next day, Dr. Lange, of Granton, met me at the patient's home. We passed a large aspirator needle, and got over a pint of pus, when the flow stopped. We could get no more. This did not mend matters much, so we made a free opening next day, in the following way. At the upper border of the 8th rib in the posterior axillary line I made an incision through the skin 2½ in. long. By using a director and incising the underlying tissues separately, I was able to avoid a vessel that exposed itself between the intercostals, and which otherwise I must have severed. When I reached the pleura, I passed the aspirator needle to make sure I was not opening too low. Having found the incision was in good position, I nipped the pleura, as in hernia operation, and with a blunt-pointed bistoury, completed the incision. The pus flew in all directions. The Dr. assisting me clapped his hand on the opening to steady the flow. It squirted through his fingers into the basin, out on the floor, and fairly deluged the bed, so that the patient sat in a pool of pus. It was now evident from the many large-sized flocculi which escaped with the pus, *what stopped* our aspirator needles.

When two or three quarts had been allowed to come away, we put on an antiseptic pad and bandage, and left it till next day, when I found the pleural surfaces united. However, they were easily separated, and the remaining pus was allowed to escape. Two rubber tubes, one large and one small, were inserted. The small one for inlet, in case the cavity would require washing out, and the large one to act as an outlet tube. The former was left long and fastened at its end, while the latter was left open at the surface of the skin. From the first, antiseptic precautions were taken. The dressings were always made under carbolic spray. A large perchloride gauze pad was put over the tubes, over this cotton and a bandage.

*Read before the Ontario Medical Association, June, 1892.

In two days the temperature and pulse were normal, the diarrhœa had ceased, and the sweating nearly so. The œdema had disappeared, and the patient felt better. The respirations were still hurried. The inlet tube was now withdrawn. In a week the temperature was sub-normal, while the pulse had gone to 114. There was at no time any offensive smell to the pus. The father was shown how to dress it, with instructions to let me know if pus became fœtid. I saw him once or twice a week. He was up and about the house, and continued to do well in every respect until 9th Jan., when the father met me, as I was going out of my office in the morning, with the expression that "the blamed thing had broken off and gone in." I hurried to the patient's house, some five miles away, and found it as the father had said, the drainage tube had broken off close to the shield and had fallen or been sucked into the pleural cavity.

I dilated the ribs, which had fallen together, with a uterine dilator, and tried to grasp the tube with forceps, but could not do so.

The next day, Dr. Lange, of Granton, met me again, and having put the patient under chloroform, assisted me in the resection of 2⅜ in. of the 8th rib in the line of the old incision, then, while the patient was turned over on his side so as to allow the tube to fall towards the opening, I felt it drop upon my finger, placed in the pleural cavity. I was able to grasp it with a pair of curved forceps and withdraw it. I might say that at that period, 21 days after the pleurotomy, there still remained a vast cavity in the chest, as I could make out with the examining finger.

Having washed out the cavity with sterilized water, another drainage tube with the rubber shield was inserted, a few stitches closed the wound, and the same dressing as before completed the second operation.

For three or four days the temperature and pulse went up. 101° and 108 respectively was the highest attained. He had night sweats, and greatly lost flesh for a week. After that time the pain wore away, his sweating ceased, he was able to sit up, his appetite improved, he gained in flesh, and made an uninterrupted recovery.

I withdrew the tube on the 19th Jan., and allowed the opening to close under a light dressing of gauze and oil silk. From that time he has been allowed his freedom.

Since allowing it to close, expansion of the lung has taken place to such an extent that whereas there was two in. difference in the two sides when the tube was withdrawn, now there is but one, that is the left side which had fallen in two in., has now expanded one in.

Now as to the cause:—This young man was a favorite with the girls, and spent nearly every night of the week attending sprees on neighboring farms. He would go long distances to attend them, and get home often at daylight. His father kept him engaged well during the daytime in order to break his night work.

A couple of days before his pleural trouble he had been out all night, and got home just as his family were getting around in the morning. He was not allowed to go to bed, but spent the day in a drafty position attending a threshing machine. Thus I account for the fact that what in most persons would have been fibro-serous, was in him purulent, because of his depressed and over-worked condition of body and nerve, resulting in some vitiation of the blood.

Selected Articles.

IPECACUANHA IN DYSENTERY.

The following interesting case, illustrating the magical effect of ipecacuanha in large doses in the treatment of dysentery, has lately been brought under my notice whilst acting as physician to the French Hospital, Suez.

M. S——, a native of Austria, has resided for the last nine years at Ismailia. This town is notorious for malarial fever, and for three months in each year—July, August and September—she has suffered from intermittent fever. The paroxysm of fever came on about 11 A.M, terminating about 3 P.M. Towards the latter part of July of the present year she had a very severe attack of fever accompanied by acute dysentery. The diarrhœa was very troublesome, the bowels being moved as many as fifteen times in the course of the day, and the action being accompanied by much tenesmus. The character of the stools was typical of dysentery—at first yellow, then mucoid and slimy, with a very offensive odor. At the commencement of the attack retention of urine occurred for three days, and there have been subsequent attacks of dysuria. For days after the commencement of the fever severe pain was felt

in the right side, causing difficulty of breathing and accompanied by vomiting, of a bilious character. On Thursday morning, Aug. 12th, I first saw M. S—— in the consulting-room of the Suez Hospital. She had just arrived from Ismailia with her husband, and was supposed to be in an almost dying condition. On admission her condition was as follows: State of great prostration, with intense irritability and restlessness. Temperature 38°; abdominal tympanites and tenderness; hepatic fulness and intense sensitiveness, dysuria and diarrhœa. The stools were said by the nurse to be of the usual slimy dysenteric character, with a very offensive odor. The patient was placed in a cool ward by herself and absolute quiet enjoined. Twenty minims of tincture of opium were at once administered in a little water, followed in half an hour by half a drachm of ipecacuanha powder. Turpentine stupes were applied to the abdomen and the opium enema of the B. P. given. In the afternoon half a gramme of quinine was given in a cachet. The treatment was so immediately successful in stopping diarrhœa and easing pain that at night fifteen minims of laudanum, followed by a gramme of ipecacuanha, was again given, with another opium enema. For the first day the patient was allowed nothing but hot milk to drink. Aug. 12th: Patient has had four stools in the twenty-four hours, the temperature being 38.6°C. The ipecacuanha caused a good deal of vomiting, but almost stopped diarrhœa, greatly easing the pain in the side. The following powder was prescribed: Two grains of salicylate of bismuth, one grain of sulphate of quinine, one grain of naphthol, one-third of a grain of opium powder. This powder was divided into four cachets, one being taken every three hours. The opium enemata and turpentine stupes were continued. Milk and soda-water, or barley-water, was all that was allowed for diet. 13th: Temperature 38°C. The patient was very comfortable; slept well. Bowels moved three times in twenty-four hours. No abdominal pain. Allowed milk, bread and bouillon. Medicine to be repeated. 14th: Temperature 38°C. One motion in twenty-four hours. 15th: Temperature 37.8°C., the patient passing natural stools. Gets up during afternoon and takes more solid food. Ordered a gramme of quinine and carbonate of ammonia instead of the bismuth preparation. 16th: Temperature 38°C. The patient progressed satisfactorily. 17th: A slight return of diarrhœa, which was effectually stopped by ten grains of Dover's powder. 18th: All unfavorable signs having passed away, at her own request the patient left for her native home in Austria, with the remark that she would have died had she stayed in Ismailia.

The specific action of ipecacuanha in dysentery is due to its dual *modus operandi* on the intestines, as (*a*) muscular sedative, and (*b*) secretory stimulant. The most characteristic symptom of dysentery is tenesmus (Dr. Woodward). There is such exaggerated peristaltic contraction of the rectum and lower portion of the colon that the patient goes to stool from thirty to two hundred times in the course of the twenty-four hours, or sits there for half an hour at a time, straining violently, but passing little or nothing (Dr. Hilton Fagge). The patient is under the delusion that he will pass something that will do him good. The fault does not lie in the irritant to be expelled, but in the irritability of the intestinal muscles. According to Heubner the average quantity of evacuation passed by each patient was found to be only from twenty-eight ounces to forty-two ounces. The great difficulty we have to deal with, then, in dysentery is exalted peristalsis. Ipecacuanha meets the difficulty by acting as an intestinal muscular sedative. A large dose of ipecacuanha stops tenesmus quite suddenly and smaller subsequent doses prevent its return. With a return of the muscular coat to its normal condition the other coats lose their irritability and the accompanying inflammation coincidently subsides. The mucous membrane is then in a suitable condition for the second action of ipecacuanha to come into play—namely, secretory stimulation. We have now to deal with an enteritis, and here ipecacuanha acts in the same way as in bronchitis. Stimulation of the mucous membrane with secretion of mucus is effected by direct action on the peripheral endings of the gland nerves or minute ganglia (Dr. Whitla). Ipecacuanha has the same beneficial effect in dysentery therefore as it has in bronchitis. The action of ipecacuanha on the liver is that of a powerful stimulant. In dysentery the hepatic functions are in abeyance and bile is absent from the stools. Ipecacuanha directly stimulates the hepatic cells, so that very shortly after its exhibition the colorless slimy stools become feculent. In the words of Dr. Ewart, "Ipecacuanha is a non-spoliative antiphlogistic, a certain cholagogue and unirritating purgative, a powerful sudorific and a harmless sedative to the heart and muscular fibres of the intestines." According to this lucid and comprehensive description ipecacuanha is a perfect remedy for dysentery. In a certain proportion of cases ipecacuanha undoubtedly fails. Dr. Maclean says: "Where it fails it is because it has been given too late, when structural changes incompatible with life have taken place in the affected intestine, or from structural diseases of the spleen, liver and kidneys, or the combined ravages of the malarial and scorbutic cachexias." In those cases where ipecacuanha fails when success ought apparently to attend its administration the fault probably is to be fouud in the diet. For three hours after the first dose of ipecacuanha only a little ice should be

sucked and after that a little iced soda-water and milk. Beef-tea or bread, or very light foods, are fatal to the successful administration of ipecacuanha; and to this cause a great many of the failures of ipecacuanha are doubtless to be attributed. On the second day the ipecacuanha can be reduced in quantity and supplemented by salicylate of bismuth, quinine, naphthol and opium. Milk should still form the staple article of diet. Later on farinaceous foods and soups may be carefully given, but a return to solid meat should be deferred as long as possible. Mr. Chowdhovry remarks "that the large doses of ipecacuanha, which have been found to be of great use in treating the dysentery in India, are often inadmissible by reason of the nausea thereby invoked preventing the patient from taking a sufficient amount of nourishment." Considering that the success of the treatment by large doses of ipecacuanha depends upon the condition of the patient in not taking any nourishment during the period of its administration, the failure in Mr. Chowdhovry's cases was evidently due to the fact that his patients were trying to take a "sufficient amount of nourishment," thereby actually causing nausea and preventing a cure. There are cases where ipecacuanha fails when administered by the mouth which may be very successfully deals with by ipecacuanha and opium enemata.—Arthur H. Hart, M.B., etc., in *Lancet*.

A SUMMARY OF WHAT CAN BE ACCOMPLISHED IN THE TREATMENT OF CHRONIC BRIGHT'S DISEASE.

Before considering what may be hoped for or accomplished in the treatment of chronic Bright's disease, it is indispensable to state with precision what pathological conditions are to be considered as coming under the name of Bright's disease, or Bright's diseases. The cases described by Bright himself were characterized by œdema or dropsy, albuminous urine, uræmic symptoms, and extensive renal changes. Yet perhaps even the greater part of the cases which are loosely called "Bright's disease," present none of these conditions except that of mild albuminuria. That physiological or normal albuminuria exists, I do not believe. I think the thorough consideration and argument presented by Lecorché and Salamon upon this vexed question, show that it does not, and in the edition recently published of my own work on Bright's disease, I have devoted considerable space to this important subject. Thus far, none of my arguments have been refuted.

For the purposes of this paper I shall exclude the cases of simple, mild, chronic albuminuria, such, for instance, in which the urine does not contain more than three centigrammes (about one-thirtieth of one per cent.) to the litre, which are unaccompanied by renal epithelia or casts, where there is no diminution in the amount of solids excreted, the functions of the kidneys are not deranged, and the general health does not seem to be impared. And such cases are extremely common. I desire to state what has been and what may be the result of treatment in those cases in which organic changes in the kidney have brought about more or less grave disturbances of the health.

In advanced cirrhosis, where the interstitial tissue is contracted, and the cortex retracted and hardened, so many of the tubules must, of necessity, be obliterated or narrowed, that there would be a great loss or destruction of their investiture of epithelia, and there would not be left enough of these to enable the kidney to perform its formative functions, namely, the formation from the blood of the capillaries which surround the tubules (and often many of the capillaries are inflamed and sclerosed) of the solids which are excreted in the urine. The result of these conditions would be the excretion of the aqueous principles of the urine, containing but little solid matter in solution, and the retention in the blood of elements, which, perhaps, by their decomposition, contribute to the poisoning of the system and the irritation of the nervous centres, and, finally, the dire catalogue of the symptoms met with in advanced cirrhosis. In such cases we can ordinarily hope to accomplish nothing more than to palliate symptoms, and perhaps prolong life. Recovery or a cure is not be to looked for.

Likewise, where the kidneys have undergone considerable fatty change; in the amyloid kidney and in the large white kidney; where there is a daily loss of considerable quantities of albumin, the tubules being choked by swelled epithelia or filled with casts; where the casts from the broad tubules predominate; where the glomeruli are inflamed and incapable of separating the aqueous principles, and the urinary secretion is diminished; and where these changes are fixed and chronic, little, perhaps nothing, is to be expected in the way of a cure.

Nevertheless, between the numerous cases of mild chronic albuminuria and those of advanced cirrhosis and chronic parenchymatous nephritis, there exist many, even severe, forms of nephritis in which the structural changes are marked, and even chronic, and so great as even to produce grave conditions of health and endanger life (I do not here allude to acute nephritis), where much, perhaps everything, can be hoped for, and even expected, from well-directed theapeutics. In these cases we are not confronted by a condition of abject helplessness, but may address ourselves to the work of relief strengthened by a certain sense of power.

When the epithelia are destroyed, they are never restored, their place being taken by a new formation of flat, spindle-shaped cell—endothelia—between the basis of the epithelia and the so-called structureless membrane; sometimes nucleated, though more frequently not. These may be embryonic or aborted epithelia. Of course it is no more possible to produce a new growth of epithelia than it is to restore hardened connective tissue or contracted or shrunk up glomeruli to to their normal state. This must be conceded.

But in all chronic cases which are susceptible of cure there is an intercurrence of acute or subacute inflammation; and this it is which I believe we cure or arrest; and that in chronic nephritis there is a constant effort to develope these new inflammations. The cirrhosis, the destroyed tubules, the obliterated tufts, these conditions must remain. But this being the case, can a cure be expected?

I answer that even then there are cases which are susceptible of a practical cure, or, at least, to such an extent that the renal functions will be unimpaired, the nutrition of the system will be affected, and no symptoms referable to the kidneys will exist. This is possible: 1. Because only a moderate amount of interstitial tissue may be affected, and so few of the tubules, as to leave sufficient healthy epithelia to enable the kidney to perform its functions. So long as this condition is equable and constant, no perturbation is experienced; but when, in addition, the epithelia become more less extensively involved by inflammation, and proliferation and inflammation of the interstitial tissue occurs, and with the increased activity of the renal there is polyuria, increased albuminuria, and diminished formation of solids, then it is that the innumerable symptoms of the morbus Brightii are developed. 2. Cirrhoses may exist only in a mild degree, and sometimes only in patches. There are cases in which the organic changes are limited to one kidney. Now, it is under these three conditions, in which the great part of the cures of Bright's disease are brought about. I have no doubt that the new inflammations can usually be controlled; and when this is done the renal symptoms and deviations from health disappear.

Of course I except cases of great structural changes in the kidney. As in all organic diseases, everything depends upon the *amount* of disease.

I have treated many cases of chronic nephritis in which disturbances of vision, loss of strength and weight, headaches, œdema, nausea and poiyuria, variously existed; the patients that I have so treated have been under my observation for several years, and, so far as renal symptoms are concerned, are in the enjoyment of perfect health. In some of these cases the albuminuria has completely disappeared. A few of these cases I will briefly describe.

About twenty years ago a lady, then sixteen years of age, had suffered about six months from all the conditions of chronic catarrhal nephritis. An absolute cure was effected in six months, and her health has remained, and is now, perfect.

Another case is that of a gentleman who had been incapacitated from work for one year, from chronic interstitial nephritis. There was slight albuminuria, great debility, hard tense pulse, with severe circulatory disturbances of the head. Has enjoyed now perfectly good health for about three years.

A third case is that of a gentleman, aged forty-two, of somewhat scrofulous constitution. First consulted me in 1885. There was chronic interstitial nephritis, and he had been incapacitated for work for three years. There was great debility, considerable cardiac tension, and loss of flesh. Within the last three years he has gained sixteen pounds, is strong and able to attend to business. Albumin is, however, always present, varying from $\frac{1}{40}$ to $\frac{1}{100}$ of one per cent. For two or three years there have been no renal epithelia.

The next patient I will refer to was a lady, who had been suffering from chronic nephritis for more than a year. It followed uræmic convulsions, she having had these in four different confinements. There were abundant casts, kidney epithelia, and from one-tenth to one-twentieth of one per cent. of albumin. For five years now there has not been a trace of albumin, and her health has been perfectly good. The microscope in this case showed more croupous than interstitial nephritis.

A girl, fourteen years of age, suffering from the chronic interstitial nephritis of malarial poisoning, was placed under my care nearly eleven years ago. The malady had been recognized about a year before I saw her. There were severe headaches, subsultus tendinum, threatening convulsions, debility, and always about one-thirtieth of one per cent. of albumin. For eight years now there has been no albumin, and the health has been perfectly good.

I mention these cases as illustrations of what I consider cures in grave conditions of renal cirrhosis or parenchymatous nephritis, and I could mention a considerbale number of others.

Undoubtedly, were it possible for me to make now a microscopic examination of the kidneys of these patients, I should find more or less thickened and hardened interstitial tissue, obliteration of a greater or less number of renal tubules, some tubules partially stripped of their epithelia, and others partially obliterated, and perhaps thickening of Bowman's capsule and destruction or atrophy of some of the tufts. But I should expect to find no acute nor subacute inflammatory conditions, and I should find enough healthy epithelia and tufts to separate the urinary salts and aqueous principles in their normal quality.

In a word, the healthy tissue would be so much in excess of that destroyed or useless that the loss of the latter would do no harm.

Thus I have endeavored to given a summary of what may be accomplished in the treatment of chronic nephritis; certainly a much more cheerful summing up than can be given of phthisis and many other grave diseases, and, on the whole, affording much that is cheering itself.

The ordinary chronic, harmless albuminuria of years' standing, proceeding for instance from the glomeruli without any lesions of the urinary tubules, can seldom, if ever, be cured, and I will go so far as to say that in the majority of cases it matters but little whether it be cured or not.

In chronic croupous nephritis with dropsy, in the large white kidney, or the fatty kidney, the prospects of benefit from treatment are much less than in the mild cirrhotic kidney. My experience in these cases has usually been unsatisfactory, and I believe that the possibilities of what I will continue to call a cure are very small. Nevertheless, I have records of several cases of chronic tubal nephritis of more than a year's standing, with dropsy, which were radically cured, the albumin entirely disappearing. Of course these were not cases of the large white or fatty kidney, but were undoubtedly cases of simple tubal nephritis. There was, in these cases, considerable albuminuria, numerious epithelia and casts, mostly granular, many of them having undergone fatty degeneration.

Chronic parenchymatous nephritis I have found more favorable to treatment when it has resulted from paludal poisoning; I have found iron, arsenic, and quinine of great value in these cases.

Another class of cases in which treatment may yield highly satisfactory results is where the nephritis has had a specific origin.

I have given, in the third edition of my work on Bright's disease, the details of what is practically a complete cure of a grave case of chronic interstitial nephritis of syphilitic origion. That patient had been under treatment for nearly two years before he consulted me; he had for several months been incapacitated from attending to business, and suffered from debility, headaches, and dimness of vision; there was considerable œdema of the eyelids; there were at no times casts, and but few renal epithelia. Two or three years of treatment were, however, necessary to bring about a good condition of health. I will say that for many months he took from forty to eighty grains of the iodide of potash daily, besides taking Fowler's solution in large doses, and corrosive sublimate, as well as the proto-iodide and bin-iodide of mercury.

I will say no more at present as to what may be expected in the relief or cure of chronic Bright's disease. I am glad that I am able to say so much that is favorable. I am aware that many physicians regard all cases of chronic nephritis as being beyond the pale of relief. But there is no reason why chronic inflammatory conditions of the kidney may not yield to treatment in a like proportion with other chronic inflammatory conditions, as of the lungs, cirrhosis of the liver, etc. Dr. Millard, of Paris, has published an account of three cases of the latter which he has cured.

As to acute Bright's disease, I will only say that it may be placed in the list of curable diseases. There are but few cases that with proper treatment may not be perfectly cured.

But when I say that many cases of chronic nephritis may be cured, it is not to be inferred that a cure is always easy, or to be effected without the expenditure of a good deal of labor and time on the part both of the physician and patient. Circumstances must favor the latter, in enabling him to pursue the treatment uninterruptedly for as long a time as is necessary; if needed, to take rest from work, to avail himself of a course of mineral waters, or a change of climate. Thorough chemical and miscroscopic examinations of the urine must be frequently made, so as to take advantage of every change in the renal conditions; the diet, selected with care, must be rigorously observed; hot air or vapor baths I consider indispensable. Whenever a new case of much gravity is presented to me, I usually require the patient to keep his bed perhaps for several weeks, and to subsist on a lacteal, or on a slightly nitrogenous, diet. It is necessary to make the patient understand *in limine* the necessity of all this, and that he has before him a long and arduous course of treatment. Unless patients comprehend all these necessities I cannot give them much encouragement, and prefer not to treat them.

It is not the purpose of this paper to refer specifically to the treatment, but I will say that, together with the measures I have referred to, I have found various mercurial preparations indispensable, and I have used with great value ergotinine caffeine, strophanthus, digitalin, sparteine, arsenic, various preparations of iron, especially the albuminate and chloride, quinine, the salts of strontium and calcium, nitro-glycerine, iron and arsenical waters of the Trentino, as the Levico and Roncegno, and diuretics. If uric acid exist in excess I neutralize it by Vichy, Vals, or similar waters, and often prescribe for the same purpose Schering's piperazine water with phenocoll. I send patients often to Evian, Vichy, or Royat, and, if the hepatic functions are greatly deranged, to Carlsbad, Marienbad, or Vichy.

I will close by quoting from my own work the following remarks upon treatment:

"There is a harmful disposition on the part of writers even of known ability, in reviewing the therapeutics of Bright's disease, to speak of the

employment of a long list of remedies in this ailment, and of finding them in certain cases useless or the contrary. Practically, their conclusions are to the effect that such and such remedies are 'good' or are not 'good for' R. Bright's disease. The mistake that such writers make is in considering this malady an *entity* and treating it as such, instead of realizing its multiple character and the fact that the pathological conditions, the changes, the constitution of the disease, the etiology, are seldom identical in different cases; although it is of course true that there is a certain number and class of remedies without recourse to which treatment would be likely to prove unaviling."—Henry B. Millard, M.D., New York, in *Medical Record.*

THE ALBUMINURIA OF PREGNANCY TREATED BY THE INTERNAL ADMINISTRATION OF CHLOROFORM.—REPORT OF CASES.

In the *Southern Medical Journal* for August, 1890, an article appeared from the pen of Dr. A. W Grigga, claiming excellent results in the treatment of the "Albuminuria of Pregnancy" by the internal administration of "chloroform" in from ten to twenty drop doses in water after each meal and at midnight.

Inasmuch as my own treatment of this condition had not been altogether satisfactory, I determined to give chloroform a trial as soon as an opportunity offered.

As a result of my trial of the remedy I append cases representative of different cases coming under my own observation and that of some of my medical friends.

Case I.—On November 3, 1890, my first opportunity offered in the person of Miss C., unmarried, æt. 22 years; pregnant about 8 months. Two weeks ago her feet and ankles began to swell and the swelling has gradually increased until to-day she has general anasarca. She is listless and complains of continuous frontal headache and dull heavy pain in the back and lower extremities. Pulse 88, temperature 99, pupils sluggish. Her mother states that during the last 24 hours she had not passed more than a half teacupful of urine (she had been treated for over a week by an irregular). I had her pass her urine and she voided about ℥ij. A rough bed-side test showed it albuminous (albumen = $\frac{1}{8}$). I ordered her ten drops of chloroform in a tablespoonful of water every 6 hours

Nov. 4, 2 p.m.—General condition about the same, has passed 16 oz. of urine in 23 hours. Treatment continued.

Nov. 6, 9 a.m.—Pain in head slightly improved, otherwise patient is about the same. Has passed 27 oz. of urine in 42 hours. Dose of chloroform increased to 15 gtt.

Nov. 8, 11 a.m.—Patient much brighter, headache only slight, pain in back and extremities very much improved. Has voided 54 oz. of urine in 50 hours. (Albumen = 1-12). Treatment continued.

Nov. 10, 2 p.m.—Patient very much improved. swelling diminishing rapidly, has passed 80 oz. of urine in 53 hours. She perspired profusely during last night.

Nov. 12, 10 a.m.—General condition good, swelling of face and upper portion of body has almost entirely disappeared. Has passed 78 oz. of urine since my last visit.

Nov. 14, 3 p.m.—Patient says she feels comparatively well, only that nasty medicine is beginning to make her sick at the stomach. Has passed 76 oz. of urine since last visit (albumen = 1-20). Up until my third visit her parents were entirely ignorant of the fact that she was pregnant, and before I had an opportunity of seeing her again they thought it prudent to have her (for the benefit of her health?) visit friends in a distant city. I afterwards learned that she was delivered of a feeble female child (which survived only a few days) on the 7th of December, and that nothing unnatural occurred during her lying-in.

Case II.—On the night of February 2, 1891, I was called hastily to see Mrs. C., who was pregnant near unto term in her fourth pregnancy. Her husband stated they had not noticed anything unusual about her and that she had gone to bed apparently in good health, at 9 o'clock. At 11 o'clock he awakened and found her in a convulsion. When I arrived I found her in a semi-comatose condition, pulse 120, temperature 101. I passed catheter and drew off about one ounce of urine. There was no swelling except slight of feet and ankles, no history of suppression of urine. Touch did not reveal any sign of oncoming labor. I gave her a half teaspoonful of chloroform as soon as I could get her to swallow it, and repeated the same dose every half hour until four doses had been taken. I left her with directions to give her 15 drops every hour until I returned, and in event of another convulsion to call me at once.

Feb. 3, 8.30 a.m.—Patient is stupid, answers questions intelligently. Pulse 108, temperature 99½, pupils sluggish. Drew 6 oz. of urine with catheter (albumen = 1-10). Continued chloroform 15 gtt. every hour.

6 p.m.—Urine has passed involuntarily, pulse 120, temperature 100½. About ℥j of urine drawn by catheter. Patient very stupid, slight twitching of muscles of face and left upper extremity. Order chloroform in half teaspoonful dose every one, two or four hours as indicated by muscular movements or restlessness.

12 midnight.—Patient in labor, os well dilated, cephalic presentation L.O.A. position. 12.30 mem-

branes ruptured and at 12.40 she was delivered of a living male child weighing 8 pounds and 10 ounces. Her lying-in was perfectly normal. Abundant secretion of urine, and on fifth day there was merely a trace of albumen.

Case III.—On July 9, 1891, I was called to Mrs. W., æt. 20, pregnant eight and one-half months; first pregnancy. She said she was feeling very well, but that her feet and legs were considerably swollen, and she thought she had better see a doctor about them. Her general health was good; pulse 84, temperature 98¼, tongue clean, bowels moved every second day. She said she passed her urine very freely and frequently. I told her to send some urine to my office in the evening, and I would call the next day. In the meantime, she might take a small dose of citrate of magnesia. The urine, sp. gr. 1028 (albumen = 1-20), a few granular casts.

July 10.—Patient reports having passed 32 oz. of urine in 26 hours; bowels moved once freely; a small quantity of urine had passed at that time, not measured. I ordered 10 gtt. of chloroform, morning, noon, supper and bed-time.

July 15.—Urine passed in last 20 hours, 18 oz.; swelling considerably increased; ordered medicine continued.

July 18.—Urine passed in last 22 hours, 15 oz.; now some puffiness of eyelids; slight headache; ordered 15 gtt. of chloroform every five hours.

July 20.—Urine passed in 44 hours, 26½ oz.; considerable swelling of the face, and swelling very much increased in lower extremities; complains of some nausea, and headache much worse; ordered 10 drops of chloroform and a teaspoonful of infusion digitalis every three hours.

July 21.—Has not been able to take medicine regularly on account of vomiting; swelling still increasing; headache severe; has only voided about 12 oz. of urine in 24 hours (albumen = ⅛); ordered ℞—Mur. cocaine, grs. ij; aquæ calcis, ℥ij. M.—Dose, a teaspoonful every one or two hours as needed for vomiting; chloroform and digitalis to be continued.

July 22.—Headache improved; has only vomited twice; passed 16 oz. of urine in 22 hours; the swelling of lower extremities so great, I deemed it prudent to puncture the feet with a surgical needle, making twelve punctures in each foot. Treatment continued.

July 23, 12.30 a.m.—Patient was taken in labor about 9 o'clock; os is dilated to size of silver dollar: cephalic presentation, L.O.A. position; pains strong, bearing and regular every ten to fifteen minutes; 3 a.m., membranes ruptured, os well dilated; 3.35, was delivered of a female child, weighing 5½ pounds; no anæsthetic given during labor; recovery uninterrupted; urine abundant; all trace of albumen had disappeared on twelfth day.

Case IV.—Dec. 27, 1891, 10 a.m., I was called to see Mrs. S. J. L.; pregnant, 7 months in her sixth pregnancy. A history of eclampsia in two of her former labors; called me because she was swelling, and felt very much the same as in her former unfortunate pregnancies. She was anæmic; pulse 110, temperature 99, tongue furred, urine scant and high colored; could not state exactly quantity passed; diarrhœa, bowels moved eight to ten times in 24 hours. She was generally anasarcous, her feet and legs especially being enormously swollen. Intense headache, and some dimness of vision; subsequent examination showed urine albuminous (albumen 1-12). Ordered 15 drops of chloroform every four hours, and brom. potass. and chloral hydrate, āā grs. x, every two hours until pain in head was relieved.

6 p.m.—Patient reports no improvement.

Dec. 28, 9 a.m.—Patient slept about five hours, pain in head much relieved; only took three doses of brom. and chloral; was not able to measure quantity of urine passed on account of diarrhœa. Ordered chloroform continued. Brom. and chloral only if restless or pain in head. Also bis. sub-nit. grs. xij every two hours if needed for diarrhœa.

6 p.m.—Reports having slept two and one-half hours during day; diarrhœa not so frequent; no headache.

Dec. 29, 2 a.m.—Patient slept from 11 until 1 o'clock, when she awoke and had what the nurse termed a severe convulsion, lasting about five minutes. Patient is now semi-comatose, pulse 140, temperature 99½. 2.10—took a convulsion while I was examining her; lasted three minutes. Administered chloroform by inhalation. At 3.30 slight twitchings of muscles of face occurred. I gave her then a teaspoonful of chloroform by the mouth. She then rested for two hours.

Dec. 29, 9.30 a.m.—Patient conscious but stupid. Pulse 114, temperature 99+. I drew three ounces of urine and found some urine and fæcal matter had been passed involuntarily in bed. Ordered bismuth continued as needed and gtt. xv of chloroform every two hours, unless patient was sleeping.

8 p.m.—Patient resting easily, has passed urine involuntarily; no diarrhœa. Treatment continued.

Dec. 30, 9.30 a.m.—Patient slept six hours during night. Is perfectly conscious, has slight pain in head. Has passed six ounces of urine in ten hours. (Albumen = ⅛). Treatment continued. From Dec. 30 to Jan. 3, the quantity of urine passed averaged 16 oz. for the 24 hours. The swelling gradually increased. There were no further signs of convulsions.

Jan. 3, 2 p.m.—Patient is slightly delirious, pulse 124, temperature 99+. Urine passed involuntarily and some diarrhœa in morning. Ordered one-half teaspoonful of chloroform every two or four hours until rest was secured. Nurse reported

having only given three doses until Jan. 4, 11.30 a.m., when I found patient rational and in labor. Os dilated, both feet presenting. At 12.10 I delivered of an hydrocephalic monster. Her recovery was uninterrupted until the eleventh day, when a slight attack of phlegmasia alba dolens set in, which somewhat retarded recovery.

CASE V.—Mrs. S., æt. 23, pregnant 8 months, in her third pregnancy. In her first pregnancy, I was compelled to induce labor on account of rapid succession of convulsions during thirty-six hours. Second pregnancy was uneventful, no albumen or dropsical effusion occurring. Now, April 5, she is considerably swollen in lower extremities, urine high colored and scant, and on examination albumen = 1-10. Ordered 15 gtt. of chloroform four times a day in a tablespoonful of water.

This case, residing a distance out of town, was to report to me in a few days. She neglected to do so, however, for ten days, when she reported swelling reduced; urine passed from 36 to 40 oz. in 24 hours, on examination, albumen only a trace. The medicine was discontinued. She was confined on May 1; her labor and lying-in being perfectly normal.

Several other cases have been treated at my request by medical friends with a view to ascertain results. I regret very much that I have not had the opportunity for observation I thought I might have when I agreed to write this paper. It is a small experience upon which to base an opinion. Taking these cases in connection with a few others of a milder nature I have treated and several reported to me kindly by members of the Pittsburg S. S. Medical Society, I am led to conclude that chloroform does undoubtedly do good in some cases, while in others it apparently aggravates the trouble. It seems to me, whatever its effect may be determined to be upon further investigation, with regard to increasing the flow of urine and decreasing the albumen, that it does have a beneficial effect when given internally in preventing eclampsia.—J. Milton Duff, M.D., in *Jour. of Am. Med. Association.*

THE DIFFERENT FORMS OF CARDIAC PAIN.

Cardiac pain is a symptom belonging to several affections that differ from each other in their nature and pathology. These maladies have all the common property of pain, varying in degree, and seated apparently or really in the heart. There is, however, no satisfactory term in English usage for designating this pain. On the ground of analogy, it would seem proper to call it cardialgia, after the examples of gastralgia, cephalalgia, etc.; but this word is already appropriated, illogically though it may be, to an affection with which the heart is not concerned at all. Thus, in the *National Medical Dictionary* of Dr. Billings, the first definitions of cardialgia are gastrodynia and heartburn, the last being pain in the heart. In the *Century Dictionary* and in that of Dr. Foster no other meanings for cardialgia are given than heartburn and gastralgia. Dr. Flint says that "cardialgia signifies pain at the cardiac orifice of the stomach, of a burning character"; and Dr. Wm. H. Welch, in his very valuable monograph on *Ulcer of the Stomach*, says: "With most English and American writers cardialgia signifies heartburn, while Continential writers understand by it the severe paroxysms of epigastric pain which we more frequently call gastralgia." This usage, though fixed, is certainly contrary to etymology and to the analogy of similar words. *Heart-pain* would suggest its meaning very plainly, but it is not in accordance with English usage; for we do not say head-pain or back-pain; and if headache, backache, and earache suggest *heartache*, we are debarred from that word by the fact that since it was included with "the thousand natural shocks that flesh is heir to" it has always been used to denote emotional rather than physical distress. We are therefore driven to the use of the terms "cardiac pain" or "pain in the heart."

This kind of pain is found as a prominent symptom principally in three different forms of disease of the heart; and I desire to refer briefly to these from a clinical rather than from a pathologic point of view.

The first of these, and the one in which the pain exists in most intense degree, is angina pectoris, true angina with increased arterial tension, occurring in paroxysms, and most frequently associated with aortic or coronary disease or with fatty degeneration of the heart. As the name of this affection implies, the pain is of the very essence of the disease itself. In severe cases it is nothing less than a mortal agony—an agony from the very intensity of the pain, and a mortal agony because, as testified by many sufferers, the pain is attended with a sense of impending dissolution. Nothing can better describe a paroxysm of angina than words used by a non-medical writer, and without reference to this disease, in which he speaks of "a sense of ruin which is worse than pain." As recorded by Dr. Latham, from his own observations, it is "a suffering as sharp as anything that can be conceived in the nature of pain, including something which is beyond the nature of pain—a sense of dying." Keeping in mind this element of the paroxysms, I think Professor Flint's criticism, that "Heberden's term signifying *strangulation* has but little pertinency in this application of it," is, with all deference to his high authority, hardly justifiable; for Heberden speaks of "the sense of strangling and anxiety with which the disorder is

attended"—*angor pectoris intentans vitæ extinctionem;* and he seems to use the word angina with reference to these rather than to the pain alone; to the combination of anxiety and anguish found in the disease; words indeed that come from the same root as angina, and bear witness to the accuracy of the term as Heberden first employed it.

The structural changes connected with true angina are in a very large proportion of cases those that produce cardiac ischemia, especially insufficiency or atheromatous rigidity of the aorta, obstruction of the coronaries or fatty degeneration of the heart. Any one of these changes may lesson the blood-supply to the heart-muscle; but only the first two, aortic insufficiency and obstruction, are diagnosticable with certainty by auscultation; we may suspect coronary obstruction or fatty degeneration, but we cannot during life prove their existence. Hence the prognosis of a case of true angina pectoris may be equally as grave when auscultatory examination yields a negative result, as when it discloses organic disease; for the cardiac ischemia on which the disease may depend may be brought about by undetectable coronary obstruction or fatty change. On the other hand, post-mortem examinations not infrequently show great sclerosis of the coronaries, and also fatty degeneration, in cases in which the symptoms of angina pectoris had not been present during life; so that it is difficult to determine what is the immediate cause of the angina, *i.e.*, what is the exact causative relation of the lesions to the symptoms.

A very common factor in the production of a paroxysm, or at least a very common attendant upon the paroxysms in the earlier attacks, is a great and sudden increase of arterial tension. Whatever be the underlying organic cause, the immediate action seems to be purely neurotic, just as it is in Nothnagel's vasomotor angina, coming on after exposure to cold, which produces apparently a spasm of the peripheral arterioles and a sudden feeling of tension or severe pain about the heart; or there may be some unknown reflex influence by which the arterial constriction and increased tension are brought about and the paroxysm excited.

It was this sudden increase of arterial tension that led Lauder Brunton, by a happy inference, to try the effect of amyl nitrite in angina. The action of this remedy in causing flushing was first observed by Guthrie, and its power of lessening tension was first shown by Gamgee, but the application of its power to the particular form of increased tension found in angina pectoris was first made by Brunton, with the well-known results of giving deliverance and safety, at least for a time, to many that have seemed ready to perish. In view of the many cases of angina in which great and prompt relief has been given by this agent, I cannot but feel surprised at the opinion expressed by several recent writers that it is doubtful if there are any remedial agents that have the power to arrest or very greatly relieve a paroxysm of the disease. No therapeutic results seem to me more obvious and satisfactory than those that are often witnessed from the use of this remedy in angina; and I fully agree with Professor F. C. Shattuck, that the value of the nitrites in angina is greater than Strümpell, the author upon whom he comments, would seem to admit.

A second form of cardiac pain closely allied in character to the one already considered, and yet distinct from it in its pathologic relations and generally less intense in type, is encountered as a complication of some cases of chronic nephritis, chiefly the contracted kidney or interstitial nephritis. In this class of cases the changes in the kidneys and sometimes in the heart are parts of a general arterio-sclerosis, and the pain in the heart is probably the expression of resistance to the blood-flow through the arterioles.

If it be asked why, with a constantly present mechanical cause, the attacks should be paroxysmal, with intervals between them, it may be said that this is a law of various neuroses, such as neuralgias dependent on pressure, or epilepsies due to exostosis or depression of bone, or spasmodic asthma due to nasal polypi—all conditions in which the causes are constant and the neurotic seizures paroxysmal. In this form of cardiac pain, the attacks may be frequent, but they are in general less severe (such at least has been my experience) than those of true angina connected with heart-lesions. I have described several such cases in a paper read before this Association at its meeting in 1888. In all of them the symptoms of chronic interstial nephritis existed, and in one of them, in which the painful attacks were most severe and most like those of true angina, post-mortem examination disclosed not only chronic contracted kidneys, but occlusion of the coronaries. It is in cases of this kind that potassium iodide in large doses, as advised by Huchard, may sometimes prove beneficial by lessening the arterio-sclerosis. In the painful attacks, a certain degree of relief may be obtained from amyl nitrite, which, though it cannot reach the organic cause of obstruction, may lessen an incidental increase of tension.

After all, these two forms of cardiac pain may be essentially one in their pathology—both being dependent upon sclerotic changes. Regarded clinically, however, one group is composed of cases in which there are detectable or suspected organic heart-changes, with no kidney complications; while the other group consists of cases in which the kidney-symptoms are always prominent, while the heart may or may not be involved.

A third form of cardiac pain is found in dilatation of the heart, and is perhaps due to tension and stretching of the nerves in the heart-substance,

Traube held that the pain of true angina is due to this cause. Whether it be so or not, the subjects of cardiac dilatation frequently experience pain about the heart, greater in degree in general in proportion to the rapidity with which the dilatation is induced.

Pain may thus arise from any form of valvular disease of the heart that leads to dilatation; but of the various valvular lesions it is perhaps found most commonly in aortic insufficiency, which is likely to occasion rapid dilatation of the left ventricle, from the pressure of the backward current of blood from the aorta, at the same time that the left auricle is sending its supply into the ventricle It is to be remembered, however, that aortic insufficiency may give rise to some cardiac ischemia by the imperfect filling of the coronaries; and thus there may be two causes of the pain, the ischemia and the intra-ventricular pressure. Which has the larger share in causing the pain, it may be impossible to say.

If dilatation be extreme and acutely developed, free venesection may be the best means not only for relieving pain, but also for saving life.

In all forms of cardiac pain, arsenic is a remedy of much value, from its action as an anti-neuralgic, and from its power of promoting the nutrition of the heart. It has no effect in the way of controlling existing pain, but it may lessen the severity and the frequency of future attacks, and I hold, with Anstie and with Balfour, that there is no more important prophylactic tonic against cardiac neuralgia than arsenic.

Looking at all three of these forms of disease and endeavoring to co-ordinate them as to their cause, it is quite possible that the chief factor in the production of pain common to all of them is pressure brought to bear upon the cardiac nerves or upon the cardiac ganglia themselves. The connection between these ganglia and the cervical and brachial plexuses gives a ready explanation of the extension of the pain to the arms that may occur in any form of cardiac pain. In the first or strictly paroxysmal form, true argina, the pressure may be occasioned by the sudden tension of the arterioles; in the second form, by the general sclerotic state of the vessels; and in the third form, with dilatation of the heart, by the attenuation of the heart-walls.—Samuel C. Chew, M. D., in *Med. News.*

NOTE ON THE RELATION OF THE SYMPATHETIC TO THE CEREBRO-SPINAL NERVOUS SYSTEM.

Stewart in opening his article on the disorders of the sympathetic nervous system, says: "Although the physiology of the sympathetic has been advanced considerably within recent years, there has not been a commensurate advance in our knowledge of its diseases. In fact, with the exception of a few important disturbances which we know to have a direct causal connection with alterations in the sympathetic, our knowledge of its diseases is very superficial and in many cases purely problematical." He then gives the following list of the chief disorders attributed to changes in the sympathetic, hemicrania, exophthalmic goitre, angina pectoris, Addison's disease, diabetes mellitus, unilateral hyperidrosis, glaucoma, neuro-retinitis, and ophthalmia neuro-paralytica. He does not mention neuralgia, neuritis or any of the common disorders to which nerves are liable, and yet neuralgia of the abdominal sympathetic is a comparatively frequent affection. Indeed, most modern writers have neglected this disease, seeming to regard it as synonymous with colic. It is this habit of applying the general term colic to all painful disorders having their origin in the intestine that has done so much to obscure our conception of the diseases of the abdominal sympathetic. Thus, Ross in speaking of the cœlic plexus, describes neuralgia mesenterica, and as synonyms employs the terms colic, enteralgia, and colica saturnina. That he regards these conditions as practically identical is apparent from the description, where he says that "enteralgia or intestinal colic consists of pains in the abdomen, having their seat of maximum intensity about the umbilical region." He mentions neuralgia of the gastric and hepatic plexuses, but it is only when describing the disorders of the cœlic plexus, that he seems to regard pain in this region as identical with colic. Romberg clearly pointed out the error of applying the term colic to every pain having its origin in the intestinal tube. In this he was not alone, as Thomas Willis had described essential neuralgia of these parts long before and had clearly distinguished between the colicky pains, vulgarly termed the gripes, and the disease in question. The former attacks all classes of people indifferently, is caused by incongruous or unusual beverages, diet, taking cold, etc. The latter, however, develops in persons who are predisposed, it has peculiar features, and is probably dependent upon an essential cause differing from the accidental ones named as originating the first group.

The severest case of abdominal neuralgia that ever came under my observation, was that of a young man 26 years of age, single, of good habits, who was employed as a salesman in a feed store, and led a temperate, active life, with plenty out of door exercise. He was apparently in perfect health, his complexion was ruddy, appetite good, and bowels regular. For the past seven years he had suffered from excruciating pains in the abdomen; the attacks would come on at intervals of from one to three weeks, and would last from

24 to 72 hours. The pain would begin as a dull ache, having its point of maximum intensity, about the umbilicus, it would gradually increase in severity until it was quite unendurable. In the attacks when I saw the patient, the abdomen was usually retracted, the pulse was small, and the pupils moderately dilated. The face was often covered with perspiration. The pain would increase for some time, reaching the maximum at the end of twenty-four or thirty-six hours, it would then gradually subside until it had entirely disappeared, and the patient was again in apparently perfect health. While the patient has suffered for seven years, it is only during the last three, that the disease has acquired its present severity. At no time during the attacks was there any tenderness upon pressure, nor did pressure afford any relief to the pain. There was no rise of temperature during the attacks, though it was frequently taken. While the pain always began about the umbilicus, after some hours it would radiate to all parts of the abdomen, and would apparently pass a short distance above the margin of the ribs; it extended into the loins when the attack was at its worst.

During the time this man was under treatment, which extended over some months, every possible source of reflex irritation was looked for. The stools, urine, bladder and rectum were carefully and repeatedly examined, but were invariably found to be normal. During the paroxysms of pain the stools were always regular, and the fæces well formed. An important fact in this patient's history was that at no time did he present any of the usual symptoms of neurasthenia. He had used morphine for some years to control the pain but had not become an habitual user of the drug. He was rigorously treated in a variety of ways. The constant current was used with at first quite marked effects, but it soon ceased to exercise any control over the disorder. Various anti-neuralgics were employed, but like morphine, they seemed to exercise only a temporary influence. The patient realizing that I could do little for him finally drifted away; the last I heard from him was that he was having his attacks with their old time regularity, and he had settled down to the belief that with him they were a fixed and irremediable condition.

My reasons for regarding the above case as one of pure neuralgia of the abdominal sympathetic is that it closely resembles neuralgias of the cerebro-spinal nerves in its paroxysmal character, the freedom from all associated structural changes in the organs supplied by these nerves, the unaltered secretions and absence of all signs of inflammation. Of course the absence of tender points and the tendency of the pain to radiate to different nerves and plexuses until apparently all within the abdomen were involved, could be affirmed *a priori* when we consider that this portion of the nervous system is made up largely of non-medullated nerve fibres and closely associated ganglia.

Another case was one in which the cardiac and pulmonary plexuses were involved. A man 38 years of age was sent to me from an adjoining State, with the following history: Three years before he began to experience pains in the chest radiating from the sternum in all directions, but especially over the precordia. There was a good family history and an account of previous good health. The onset of the pains was gradual, but they increased in severity until now they are at times very severe. He says that he is never free from some uneasy feelings in the chest. The man is in excellent health, never has a cough or any severe illness. His digestion and appetite are good and he sleeps well when not disturbed by the pain. He admits having used tobacco excessively for many years, but for the last twelve months has stopped it entirely. An examination of the heart shows arythmia but no enlargement or murmur.

I have detailed the above histories for the purpose of showing that so far as one common form of nerve disturbance is concerned the sympathetic nerves do not behave differently from those of the cerebro-spinal system.

Most writers seem to regard the sympathetic as having peculiar and distinguishing functions apart from those possessed by other portions of the nervous system. Doubtless much of the obscure theorizing regarding the pathology of the sympathetic has its origin in the vague and fanciful notions held for so many years by the older physiologists.

Bucke, of London, Canada, claimed that the moral nature of man resided in this part of the nervous system, and in one case of insanity, associated with marked moral perversion, he searched these ganglia closely for anatomical changes.

Even yet it is the custom of our standard works to look upon the nervous system as composed of two divisions, the cerebro-spinal and sympathetic, but Dr. Gaskell pointed out the erroneous nature of such an assumption, and showed that the so-called sympathetic system was but an expansion of the cerebro-spinal nerves. The chief reason relied upon by the older anatomists for making this distinction was morphological; the presence of numerous gangiia and the fact that the greater bulk of the fibres were non-medullated, or the so-called grey fibres. Later research has abundantly shown that the structural differences are more quantitative than qualitative. Non-medullated fibres are found in the spinal nerves in considerable numbers; these nerves are also associated with nerve cells irregularly aggregated but in small numbers, usually at the point where they break up to form

plexuses before passing to final distribution. Bearing in mind, therefore, that these structural differences are of degree and not of kind, we are better prepared to regard the nervous system as an entity and we shall reach a much better understanding of its different parts. What structural differences there are, are due to the fact that it is through the cerebro-spinal nerves that the principal sensations from the skin and voluntary impulses to the muscles pass. Of necessity these fibres must be insulated ; they must have a medullary sheath. If such were not the case there would be an interference with sensations, and we would not be able to locate the point of impingement upon the surface. Again, the voluntary movement of a single muscle pre-supposes that the impulses which gives it origin shall start from the cortical centre and travel upon a medullated, *i. e.*, insulated fibre to its termination in the particular muscle. The older and indeed current writers on this subject said it was the peculiar function of the cerebro-spinal nerves to preside over the voluntary functions, in contra-distinction to those of the sympathetic whose function it was to govern the involuntary or vegetative functions. If we could strip the cerebro-spinal nerves of every sensory and motor medullated nerve fibre we should find almost the exact counterpart of the sympathetic system A careful examination of the anatomical structure of the sympathetic shows that these conclusions are correct, as no fibres are found to have their origin in the ganglia but all are derived from the cord. For the most part they have their origin in the inner side of the posterior horns and they are at first medullated, but as soon as they reach the ganglia they loose their insultating sheath, that is, the greater part of them do, and pass on to their distribution. A relatively small number of medullated fibres persist in the sympathetic just as a relatively small number of non-medullated fibres are found in the cerebro-spinal nerves. The error of the older writers was in regarding the cerebro-spinal nerves as being distinctively motor and sensory, overlooking the fact that they possessed to a marked degree the vegetative or trophic functions. We venture the prediction that only for this unfortunate misconception of the functions of these two great divisions of the nervous system we would have a much clearer knowledge of many pathological processes than we now possess.

We may divide the development of this subject into three stages. In the first, physiologists divided the nervous system into two parts, the voluntary and the vegetative. This regulated the sympathetic, to a position not much more important than held by ordinary connective tissue. The second stage was ushered in with the discovery of the vaso-motor nerves and the fact that most of the cerebral ganglia were connected by filaments with the sympathetic, and that many of these exercised a direct influence on the calibre of the blood vessels to which they were distributed. With this epoch came much of the bizzare pathology that linked many strange disorders, such, for example, as hemi-facial atrophy to changes in the sympathetic. It was such an easy matter to sever the cervical sympathetic and note the dilated capillaries, therefore the atrophy of the same region must be due to changes in the circulation. As a matter of fact this disorder is much better explained by referring it to a trophic disturbances in the fifth nerve. These and other erroneors conceptions were accentuated by the fact the sympathetic is concerned in regulating the blood supply of the great organs ; their relative importance in this respect has obscured the fact that the spinal nerves have the same function. In fact there is not a single difference in the function of these two systems, so-called, that is not readily explainable by these structural peculiarities and by differences in the office of the organs to which they are distributed. There is not a single basic function of nervous tissue which they do not possess in common.

The third stage will, we hope be one in which the nervous structures are described, not as being divided into two systems, but one in which the sympathetic nerves are regarded as branches of the cerebro-spinal, subject to the same laws of functional activity and liable to same accidents and diseases. With this more correct understanding of its relations, we look for increased interest in its structure and functions and a better clinical grasp of its disorders.—Harold M. Moyer in *Jour. of Am. Med. Assoc.*

TREATMENT OF GASTRIC ULCER.

In those cases in which the most prominent symptoms are localized, epigastric pain, vomiting, loss of appetite, and anæmia, and which principally occur among young and chlorotic females, rest, strict diet, and the administration of alkalies and bismuth has been the stereotyped treatment. It is essential that each of these measures should be, wherever it is possible, strictly enforced. Complete rest in bed for some weeks, recommended at first by English physicans, and more recently insisted upon by Leube, Ziemssen, Ewald, and Rosenheim, is an essential point in the treatment, and must be insisted upon even if there is no hæmatemesis or vomiting of food. After a few weeks the patient may be allowed to sit up a few hours and move about slowly, or take a drive when the weather permits it.

As regards diet, it is necessary, where the irritability of the stomach is very great, and where the pain and vomiting occur frequently, to withhold for a few days (three to eight days) all food by the

mouth, and feed the patient entirely by nutritive enemata. A mixture of two raw eggs with two ounces of beef-tea, to which, in some cases, a small quantity of brandy (one ounce) may be added, often acts better than peptonized suppositorities. It has been shown by Ewald that the nutritive value of raw eggs in the form of an enema, without the addition of a peptonizing ferment, is considerable. As the patient often complains of great thirst, small quantities of warm water, or of barley-water, or small pieces of ice, may be given by the mouth. After a few days one may commence cautiously with small quantities of food, such as with warm milk, to which lime-water is added, or peptonized milk, peptonized foods, arrow-root, or gruel. The food should be given every two hours, and in small quantities (three to four ounces) at a time. This treatment should be continued for at least three to six weeks, the quantity of food being gradually increased, and the dietary during the last few weeks may be a little varied. Brand's essence, or other similar preparation, may be given with advantage, rice-milk, and (where they are well borne) soft-boiled or raw eggs, or eggs beaten up with milk. Soups of all kinds and beef-tea he has not found useful during the first few weeks of the treatment. In some cases it is necessary that this diet should be continued for months; often a slight deviation from it gives rise to pain; in most cases, however, the pain and vomiting have completely subsided after four to five weeks, and then he found that a diet, slightly modified from that proposed by Leube, most useful, comprising milk, with stale bread, water biscuits, peptonized food, mutton or lamb finely minced, but without any spices, boiled chicken, soft-boiled eggs, coca, rice, stewed fruit, sweetbread, oysters. After some months, the patient may take fish, roasted fowl, pigeon, rabbit, game, underdone meat, and, of vegetables, small quantites of potatoes and asparagus; of fats, butter and cream are best borne. The foods especially to be avoided are fresh bread, strong tea and coffee, cabbage and other green vegetables, beans, peas, and the heavier kinds of meat, all curries, preserves, cheese, sweets and cakes.

Alcoholic stimulants are best avoided. As drink with the meals, warm water, or milk and water, or some of the aerated waters, may be recommended. The dietetic treatment, though the most important factors in the therapeutics of gastric ulcer, has to be supplemented by other measures. For the first few weeks the constant applications of hot poultices to the epigastrium will do much to relieve pain. Acting on the recommendation of some observers, he has used Carlsbad salts early in the treatment of gastric ulcer, but he has so often found patients complaining of pain and discomfort after its administration that he has for the last few years reserved its use for those cases where there is marked gastric catarrh besides the ulcer, and for chronic cases of ulcer, when the acute symptoms have subsided. Instead of Carlsbad salts, he has laterly been in the habit of giving an infusion of senna-pods (eight to ten senna-pods, added to about ten ounces of boiling water; the water is allowed to cool, and the pods are removed. Usually six or eight hours after this infusion has been taken, a satisfactory action of the bowels follows. Where the pods give rise to griping, or cause an increase of the gastric pain, he gives as aperients simple or glycerin enemata. Of drugs, bismuth and bicarbonate of sodium, are the most useful, and ought to be given in larger doses than are prescribed in the text-books. Where the epigastric pain is very great, Dreschfeld found powders, consisting of fifteen grains of bicarbonate of sodium, fifteen grains of subnitrate of bismuth, and one-twelfth grain of hydrochlorate of morph., two or three times daily, very useful.—Dr. Dreschfeld, in March *Med. Chron.*

TREATMENT OF PHTHISIS BY CREASOTE AND GUAIACOL.

Dr. F. P. Kinnicutt, in delivering the Middleton-Goldsmith Lecture for this year in New York, chose as his subject "New Outlooks in the Prophylaxis and Treatment of Tuberculosis." He considered very carefully the various methods of treatment which had lately been introduced and gave his experience of those he had tried. One of the most interesting series of records are those cases treated by creasote and guaiacol. Dr. Kinnicutt wished to test the practicablity of employing a very large daily dosage of creasote preparations, and to determine, if possible, any advantage which this method might possess over their use in smaller quantities. Several of the patients selected for this treatment presented in a well-marked degree many of the symptoms—namely, hectic, sweats, etc.—attributed to the toxic influence of the products of the bacillus and were therefore well adapted to test the effect of creasote upon such manifestations. A tabulated report is given of seven cases which were treated with subcutaneous injections of guaiacol, rapidly pushed to a daily dosage of one gramme, and five cases with creasote by the mouth, also rapidly increased to *six grammes* daily. In four of the former cases there was little, if any, appreciable change in the physical signs of disease. In one of them, however, the general condition greatly improved, and there was a gain in weight of eight pounds; in one the weight decreased by one pound and three-quarters; in one there was a loss of four pounds; in one the weight remained stationary; in the three remaining cases there was a progressive

increase of the pulmonary lesions. No influence upon hectic, when present, was observed. Night sweats, however, were affected favorably. In a single case suffering from chronic nephritis (confirmed by necropsy) a marked increase in the albuminuria was observed when a daily dosage of one gramme was reached. The treatment was then discontinued and the albuminuria gradually diminished. In no other case treated either with guaiacol or creasote did any trace of albumen appear in the urine, although examinations were made every other day. In a single case, where the maximum dose of guaiacol was reached, the urine became dark in color and very similar in appearance to urine containing carbolic acid products. In the cases treated with creasote two exhibited no appreciable difference in the physical signs. In those there had been a gain of one pound and a loss of three pounds respectively. In the three remaining cases there was a progressive increase of the lesions. The effect of a very large daily dose of creasote upon hectic, and sweats corresponded to that noted in the use of guaiacol. Entire tolerance of six grammes (over one and a half drachms) of creasote was exhibited by three of the five patients. One complained of slight gastric discomfort when a daily dose of five grammes was reached. Carbonate of guaiacol was also tried. In addition to possessing the advantage of being tasteless and odourless, it seemed to have a beneficial effect on the appetite. The conclusions which Dr. Kinnicutt formed from a careful study of these cases were: That both creasote and guaiacol in certain forms could be given in very large doses with entire tolerance and without injurious effect; that such doses apparently possessed no advantages over much smaller ones and had no greater effect upon hectic and night sweats; that subcutaneous injections of the drug possessed no advantage over administration by the mouth; that whatever beneficial influence creasote might exert in pulmonary tuberculosis could be effected with a comparatively small dosage; and that favorable results could be expected only by its continuance and prolonged employment.—*Lancet.*

BALDNESS AND ITS TREATMENT.

There are two classes of patients who resort either to the profession or to quacks—generally to the latter—for aid in the production or reproduction of hair in those parts of the scalp or face where it ought to grow, but owing to age or disease fails to do so. There is, first, the youth, who from vanity or a desire to improve his chances of employment, wishes to don before his time those hirsute appendages which are universally regarded as the outward sign of manhood. To him, in spite of the confident assertions of nostrum advertisers, we can offer little beyond the poor consolation of which he is well aware, that time is not only the sure, but almost the only, remedy. No doubt those means which promote an increased circulution in the skin of the face will also promote the nutrition of the hair, and, therefore, but only within narrow limits, increased growth in the more vascularized region. This, doubtless, is to a large extent the *modus operandi* of shaving, which, it is well known, increases the vigor of the hair in the region operated upon. The good effect of the slight irritation of the razor on the callow chin must not, however, be used as an argument for the application of stronger irritants, and the young man, who, in his eagerness to hasten a natural process, painted strong acetic acid on his cheeks in the then approved mutton-chop shape, not only excited inflammatory redness, and brought ridicule on himself, by publishing his youthful yearnings to all beholders, but also, by the inflammatory exudation produced, injured the nutrition of the follicles, and hindered rather than helped forward the growth he so much desired. On the whole, patience, *plus* the adoption of all means which promote general invigoration of the system, and avoidance of excesses of all kinds, is the best advice that can be given to the beardless boy. The second class, apart from those who have a definite disease like alopecia areata, comprises those who are losing their hair prematurely, or even as a result of advancing age, and it is among these that the vendors of hair restorers find a ready market for their wares. It would take up too much space to discuss all the causes of baldness, which may be either of local or general origin, or the two combined; but it is too much the custom, instead of investigating carefully into the general health and circumstances of the patient, and the exact condition of the skin of the scalp, to prescribe a hair lotion, in which may generally be found as the principal ingredient cantharides in some form or other. This, by attracting an increased blood supply to the part, is often useful, no doubt, where the baldness is due to mere sluggishness of the cutaneous circulation, but it fails altogether to reach the cause of that very large class who lose their hair from seborrhœa capitis. This is benefited by microbicide remedies—sulphur, mercurial applications of almost all kinds, and many other antiseptic drugs, both new and old. We do not know what particular microbe, among the legion which may be found in the greasy and dry scales in seborrhœa, produces the proliferation of epithelium, which, according to Unna, is directly due to an inflammatory process; but the effect on the follicle is such that it leads to atrophy of the hair, and if the disease is not arrested atrophy of the whole follicle and consequent permanent alopecia. Where the damage to nutrition is not so great the hair is lustreless and more or less

marked canities ensues, and then the hair restorers, which color the hair from without and not from within, are eagerly resorted to. Sulphur and acetate of lead form frequent ingredients of these applications, while perchloride of mercury is too frequently the leading ingredient of a large number of vaunted remedies. No doubt it is of high value as a microbicide when employed in suitable cases, but used indiscriminately for months or even years, injurious effects may be, and sometimes are, produced. Pilocarpine, hypodermically injected, or given internally as tincture of jaborandi, is certainly of value as a direct promoter of the growth of hair, but it is too powerful a remedy for indiscriminate use, and the copious perspirations and sometimes the cardiac depression it induces should keep its employment within narrow limits. Less direct means may be found in tonics of iron, strychnine, quinine, etc.; but more powerful are cod liver oil and change of air, generally to a bracing climate. It will be seen from the foregoing remarks that baldness is a symptom of such diverse conditions that there is no routine treatment for it, but the cause must be carefully sought out and intelligently treated, while the local treatment must be diligently and perseveringly carried out, as when due to its most common cause, seborrhœa, relapses are the rule, and constant watchfulness against recurrence is accordingly required—*Lancet.*

PEANUTS IN THE VERMIFORM APPENDIX; OPERATION; COMPLETE REMOVAL OF THE APPENDIX; RECOVERY.

Emma J., an American, twenty-three years old, was first seen on May 2, 1892, at 5 P.M. She had had a slight chill and pain in the abdomen since early in the morning. She had been feeling well the day before, when she came from her home in the country to her friends in the city. She had always been constipated, but had had two slight bowel-movements in the forenoon. On inquiry, I learned that she had eaten some cherries the evening before, but she was positive that she had not swallowed any of the stones. It was only at a latter questioning that the fact was elicited that she had eaten peanuts two days previously. She felt nauseated, and had vomited once or twice. I prescribed a mixture containing the fluid extract of opium, but without relief. The pain gradually became localized to the right iliac region, and increased in intensity. The temperature was 100.5°, the pulse 96. I made a diagnosis of appendicitis, and administered half a grain of morphine hypodermatically, and ordered warm local applications.

I saw the girl again the following day at 8 A.M. She had rested several hours during the night, but the pain gradually returned, and was again controlled by the administration of quarter-grain doses of morphine. The lower limbs were flexed on the abdomen, and there was great tenderness over the cecum. There was considerable nausea and frequent retching. The temperature was 99.5°, the pulse 96. The warm applications were continued, as well as morphine administered at intervals. At 5 P.M. of this day there was much pain, in spite of the anodyne, and the abdomen was tympanitic, excepting in the region of the cæcum, where there was fatness. The right groin was at this time also a little more elevated than the left groin. Nausea became extreme, and the slightest attempt to move or to raise the head was attended with retching. The temperature was 102°, the pulse 108. The bowels had not been moved since the morning of the preceding day; nor had the patient taken any nourishment. Thirst was marked, but only small quantities of lemonade were retained. The family had been advised of the girl's illness, and some members having arrived, a consultation was proposed.

At 9 P.M. I saw her again, in consultation with Dr. W. H. Earles, who concurred in my diagnosis. The patient was having great pain, with almost constant nausea and retching. The temperature was 101°, the pulse 108.

Operation was advised, but it was decided to wait until morning.

The girl rested some during the night, after full doses of anodyne, but the pain returned. It was now decided to operate, and the conditions being explained to the patient, an intelligent young woman, her consent was obtained, A full dose of morphine was administered, and she was transported to Trinity Hospital. The operation was performed at 11.30 A.M., Drs. Earles and Hoyer assisting. The patient took chloroform badly, and ether was substituted. She ceased breathing several times, and became deeply cyanosed, so that it became necessary to resort to artifical respiration. While under the anesthetic, a circumscribed induration in the right iliac region could be plainly mapped out. An incision was made parallel with, and about an inch and a half internal to, Poupart's ligamant, extending from the level of the anterior superior iliac spine downward for three or four inches, and the seat of the trouble exposed. On opening the peritoneum, some brownish, slightly fecal-smelling fluid escaped. After some search, the appendix was found. It contained two large bodies, and was gangrenous for an inch of its length, having perforated at three points. After the appendix had been removed, it was found to contain two good-sized peanuts. The abdominal cavity was irrigated with sterilized water, the wound plugged with sterilized iodoform-gauze, and an antiseptic dressing applied. The patient's condition at the close of the operation, which occupied

about fourty minutes, was critical, but improved after the administration of several hypodermatic injections of brandy. She was placed in bed, and heat applied to the extremities. Morphine was given hypodermatically, in sufficient quantity to keep her comfortable.

The temperature of two days varied between 100° and 102°; the pulse ranged at about 132, and was feeble. The wound was dressed after twenty-four hours, quite a quantity of fecal-smelling fluid saturated the dressings. On the fourth day the temperature and pulse became permanently normal. Absolutely nothing was given for the first twenty-four hours, although the thirst was distressing. After this, lemonade in dram-doses was administered, and, later, milk and lime-water. She improved rapidly, and made a complete recovery. At the date of writing, five weeks after the operation, the girl had left the hospital, and returned to her home in the country, a distance of fifty miles.

My supposition is that the peanuts were shrivelled and small when swallowed, and found their way into the appendix, where, absorbing moisture, they swelled, and, giving rise to strangulation, caused the subsequent trouble.—Dr. M. Rosenheimer, Milwaukee, in *Medical News.*

EPILEPSIA GRAVIOR OF SIX YEARS STANDING COMPLETELY CURED BY OPENING AND STRAIGHTING THE CERVIX UTERI.—Dr. John Snyder reports the following (*Phys. and Surg.*):—Miss B. S., a tall, fair young lady, age nineteen years, moderately well nourished, presented herself May, 1891, for relief from very severe epilepsy.

She has been subject to epileptic attacks at night since her thirteenth year--the beginning of her menstrual life. She had started well on the menstrual rhythm and for five months presented no deviations from the normal. But after this period of well-being she became irregular, going sometimes six months or a year without menstruating, and at those rare periods of the flow she would suffer excruciating pain. During this time she fell a victim to epilepsy. The attacks occurred in series until the year preceding her appearance at my office, when she scarcely had any respite from these terrible seizures.

She had consulted numerous medical men, taken untold quantities of patent medicines, and finally ended by drinking the potion sold by an "eminent specalist" in New York city, whose advertisement annouuces "I cure fits." The probability was she had rung the theapeutical changes from alpha to omega.

Her mental condition was rapidly becoming deplorable. Irritable and morose, she avoided society and all indications pointed to her speedy entrance into that unfortunate class of human beings—the imbecile.

Examination was thorough and was conducted with patient practically nude. Search was made for every conceivable cause of her trouble, and my patience was not rewarded until discovering a pronounced anteflexion of the uterus and a very small cervical canal and uterus somewhat over half normal size. The cervical canal was nearly closed at internal os. Left ovary hyperæsthetic.

The indication for treatment thus became clear. Consequently I enlarged and straightened the cervical canal by passing a knife through the internal os and by introducing a glass tube three sixteenths of an inch in diameter, slightly curved, with a flange on its lower end. This tube was held in position by a borated cotton tampon. The patient was kept in bed one week. She wore the tube three weeks when the canal had healed open. Daily vaginal antisepsis was practiced.

Two weeks after removing the tube she menstrated normally and has been regular ever since. Her epilepsy was cut short as if by magic. She has gained over thirty pounds in weight, and her mental organism has been revolutionized.—*Med. Rev.*

GALVANISM IN ATROPHY OF THE TESTICLES.—Dr. Ernest B. Sangree reports, in the *Philadelphia Times and Register* of July 30th, the following case, illustrating the use of galvanism in atrophy of the testicles:—"Six months ago a man of thirty-five years of age came to me complaining of being generally run down; in addition to this, informing me that he feared he 'was getting smaller below.' This last rather general statement I took to refer to that appendage of the lower portion of the body which, from many of our male patients, is likely to receive the most consideration, and consequently to be uppermost in the mind, namely the penis. I found, however, on examination that the allusion was to his testicles. These organs had indeed grown exceedingly small, at that time being no larger than very small almonds, and of a flabby consistence, denoting marked degeneration in structure as well as diminution in size. No history of syphilis could be elicited, though he freely admitted being 'one of the boys' for a good portion of his life. He did not go on sprees, but was in the habit of taking three good drinks of whiskey a day. This he stopped at my suggestion. So far he had noticed little or no loss of virile power. A general tonic was given him, and for the special trouble I decided to try galvanism. For the first month the sittings were twice a week; after that but once a week for two months longer. Sometimes the negative, at others the positive, current was used. As regards the method of administration, the indifferent pole for the time being was attached to a sponge electrode held in the hand, whilst the application to the testicles was made by rapidly touching different portions of the surface with an

olive-tipped urethral electrode. As a rule I began with a very mild current, gradually increasing it until a smart stinging sensation was experienced at each touch, and the cremaster muscle firmly contracted. During each application I noticed also that the testicles became considerably larger and firmer. The length of each sitting was about five minutes. After five or six applications it could be easily be seen that the testicles were enlarging, and at the expiration of three months, though the applications had been comparatively few, these organs had grown as large as before; and, indeed, he was rather of the opinion that they were a little larger. Whether this increase was due simply to a proliferation of connective tissue cells or to a natural growth of the proper gland structure I do not know. Probably the former is the case; but if normal spermatozoa were found in his semen, doubtless the latter explanation would be true. Whatever the character of the tissue may be, the result was certainly a pleasant one to attain, one that made my patient on much better terms with the world in general and with himself in paticular.—*Hospital Gazette.*

PROGNOSIS IN ALCOHOLISM.—This was the subject of an address by Dr. Thomas Barlow at the closing meeting of the Islington Medical Society. Dr. Barlow took a more favorable view of the prognosis of such cases than is commonly taken, and, indeed, expressed strong disapproval of the mood of pessimism in which such cases are generally regarded. He based his arguments largely on cases of alcoholic neuritis as seen more frequently in women than men. After describing the grave lesions in the nerve structure in such cases, and emphasizing the fact that the healthy structure often returns, and with it the lost function, he proceeded to argue that the lesions of cirrhosis even should not be regarded as incurable. Striking cases of recovery were given by Dr. Barlow, Dr. Stokes, Mr. Teal, and others. The great points in the treatment of such cases were three: first, the entire abandonment of the irritant causing the disease—*i. e.*, alcohol; secondly, good feeding and fresh air, and, thirdly, the action of time.—*Weekly Med. Rev.*

THE TOXIC ACTION OF IMPURE CHLOROFORM.—DuBois-Reymond says that the difference found between the physiological action of pure chloroform produced by Pictet's process of refining, as opposed to that of the impure residue from that process, is as follows: (1) No difference was found in the pulse-waves nor in the frequency of respiration; the former being equally affected by both forms of the drug, the latter varying considerably. (2) The pulse-rate, compared in nineteen cases, is higher at the close of the experiments with residue than of those with pure chloroform. (3) The blood-pressure, is by far the greater number of the experiments, at the moment the respiration stops is higher after inhalation of pure chloroform than after inhalation of the impure residue. (4) The residue causes stoppage of respiration much more quickly than pure chloroform.

These experiments, conducted with chloroform refined by Pictet's process, from what is considered pure chloroform commercially, show how necessary is the testing of chloroform before its use, as even the best commercially is impure.—*British Medical Journal.*

THE MECHANISM OF CONCUSSION OF THE BRAIN.—In "Brain," part 1 of Volume VIII, there is a paper by Dr. Alexander Miles supporting and confirming the conclusions published by Duret, that the group of phenomena commonly spoken of as "concussion of the brain" is the result of a temporary anæmia of that organ. This anæmia is the reflex result of stimulation of the restiform bodies, and perhaps of other important centres in the region of the bulb, produced by the wave of cerebro-spinal fluid which rushes through the aqueduct of Sylvius and the foramen of Magendie from the subarachnoid space of the brain to that of the spinal cord when a severe blow is dealt over the skull. In accordance with the laws of hydrostatics this cerebro-spinal wave will disturb the equilibrium of the ultimate nerve cells throughout the nervous system. The hæmorrhages found throughout the brain substance and on its surface are to be ascribed to the recession of the cerebro-spinal fluid, which naturally supports the blood-vessels of the cerebrum. These petechial hæmorrhages are not the proximate cause of the symptoms of concussion, but are rather to be looked upon as an index of the force that produced the injury.—*Jour. of Am. Med. Asso.*

THE LOCAL TREATMENT OF VAGINAL ULCERS WITH ALCOHOL.—Dr. Barsony reports the case of a woman who was admitted to the hospital for operation upon a carcinoma of the vagina. Owing to the overcrowded condition of the hospital, operative treatment was deferred and the author, chiefly for the sake of cleanliness, washed the cancerous sore daily, later twice daily, with alcohol. Eight days later the sore had diminished to such an extent that the operation was again postponed. The ulcer healed completely, but two small sores reappeared which closed up after washing with alcohol. The patient left the hospital cured. In the case of another woman, in which a carcinoma of the vaginal portion of the cervix had been diagnosed, but operation refused, the author resorted to the alcohol washings with success.—*Wien. Mediz. Blatter.*

SYMPTOMS PRODUCED BY ADENOID VEGETATION

in Young Infants.—Lubet-Barbon reports that in a child of one month the symptoms presented were that it could not breathe while nursing, and while nursing was frequently seized with attacks of coughing. It did not gain in weight, breathed with mouth open, and had a constant muco-purulent discharge from the nostrils. In another case, a child aged sixteen months, there were difficult respiration, mouth breathing, dryness of the lips, the face of violet hue; the respiration was noisy, hoarse, frequent, such as to closely simulate the respiration in a case of croup. The child has never been able to take the breast nor nursing bottle, but had been fed from a glass. Cough was frequent and often caused vomiting. In another case there was considerable emphysema. Four cases was reported. In all the treatment consisted of removing the growth by means of forceps of a particular model. The operation was performed at several sittings. In all complete recovery or great improvement followed.

Medical Education of Women in Glasgow.—The experiment made by the directors of the Royal Infirmary in opening certain of their wards for the clinical teaching of women has turned out a failure, and the governing authorities of the infirmary and also those of St Mungo's College have now determined to exclude females both from the wards and from the college classes. It is about two years since the students of Queen Margret College were granted facilities for obtaining clinical and pathological instruction in the infirmary, and at the same time the ladies attending medical classes in St. Mungo's College and other lady "medicals" were afforded the same opportunities, the Queen Margaret students, however, having their instruction separately, while the others attend mixed classes both in college and in the wards. The arrangement, however, has come to grief over the dispensary question, it having been found inconvenient, if not impossible, to carry on the very essential dispensary work of the curriculum either in mixed classes or separately, the objection to mixed dispensary classes having come, not from the women, but from the male students. To get over this deadlock the managers have decided to exclude ladies at once from St. Mungo's College and from the wards, the only exception made being in favor of Queen Margaret students, who will be permitted to attend pathological and clinical classes till the end of the summer session of 1893. All this comes as something of a shock to the friends of medical education for women in Glasgow, as unless some new arrangement is speedily made such teaching must come to an end in this city. Queen Margaret College in particular will be in a difficulty and will specially feel the hardship; it has been prospering to the satisfaction of its friends, and has only recently been affiliated to Glasgow University, which has taken over its buildings and endowments and with them all duties and responsibilities. Amongst other things it must provide clinical facilities for its lady medical students, and at first sight it is not easy to say where these are to be found.—*Lancet.*

A noted French physician claims to have got good results in goitre from tincture of strophanthus ten to sixteen drops three times a day.

SELF-RETAINING CYLINDRICAL SPECULUM.

The cylindrical form of vaginal speculum is the one most universally used, and Ferguson's, with mirrored surface, being cleanly, moderate in price, and affording a good view of the os and cervix, seems to be the favorite (at least with the general practitioner). The main objection to this valuable speculum is its extreme fragility, and that if left unheld after introduction it is very liable to be extruded by contraction of the vaginal walls and, if falling from the bed or couch, to be broken. The illustration represents a modification which, if the proper sized speculum be chosen, renders it self-retaining. It consists of a bulbous expansion at the outer end, which is to be introduced within the vagina; owing to its increased calibre and the sulcus around it the sphincter vaginæ muscle is enabled to hold the instrument, thus setting free both hands of the practitioner.

The bulbous expansion has also another advantage—that is, the concave surface forms a trough which will catch any small quantity of caustic fluids (carbolic acid, for instance) which might otherwise find its way downwards and burn or stain the external parts of the patient's clothing. This form of speculum will be found in practice a great improvement on the older form if only for the reasons given. The makers are Messrs. Arnold & Sons, who have carried out the idea to my complete satisfaction.—Alexander Duke, in *Lancet.*

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THE TREATMENT AND MANAGEMENT OF ASTHMA.

In a very interesting lecture recently delivered to the class in the Philadelphia Polyclinic, by Dr. Thomas J. Mays, Professor of Diseases of the Chest in that institution, the speaker took the ground that asthma is a paroxysmal disease of the pneumo-gastric nerves, which throws the muscular fibres into spasmodic contraction. Its prominent symptoms are itching of the head and neck, oppression and tightness of the chest, dyspnœa, bloating of the abdomen, pain in the region of the diaphragm, cough, expectoration and fever. Its causes are predisposing and exciting. (1) It may be inherited as asthma, and it may appear in children who come from consumptive or nervous families. It seems as if there is a predisposition necessary before the disease can develop. (2) Among the exciting causes are the inhalation of dust, powered ipecacuanha, pollen of grasses and of roses odors of certain animals, as cats, sheep, etc., reflex excitation coming from the nose, stomach, liver, intestines, uterus, etc. Its relation to hay fever is very close. Practically there is no difference between the two. He finds that that which relieves the one will also relieve the other.

Its treatment resolves itself into that (1) which aims to give immediate relief from the paroxysm, and (2) that which aims to prevent a recurrence of the paroxysm. Those remedies which relieve the paroxysms may be classified as follows: (1) Central narcotics, consisting of morphine, belladonna, stramonium, hyoscyamus, tobacco, chloroform, ether, ethyl, bromide, etc.; (2) emetics, consisting of lobelia, ipecacuanha, sanguinaria, etc.; and (3) the peripheral narcotics or relaxants, consisting of nitro-glycerin, amyl nitrite, sodium nitrite, pilocarpine, etc. Now all our more or less powerful therapeutic agents are stimulants to the general or special bodily tissues which they affect, in small doses, while in large doses they paralyze the same. All the above named agents only relieve asthma when given in large or paralyzing doses, the central narcotics exerting their influence on the central nervous system, the emetics acting on the pneumogastric filaments, while the peripheral narcotics paralyze the vasomotor or sympathetic nerves which supply the unstriped muscular fibres of the bronchial mucous membrane and blood vessels. While all these agents relieve asthma, and indeed in some cases are indispensable, it is quite clear that in doing so they lower or depress the functions of the parts on which they act, and that they do not, therefore, come up to the ideal of an asthmatic remedy. The best among them are nitro-glycerin, one or two minums of a one per cent. solution every three or four hours, by the mouth, and $\frac{1}{30}$ or $\frac{1}{10}$ of a grain of morphine hypodermically once or twice a day.

What then is the remedy which may be given continuously for the alleviation of this disease, and without the undesirable effect of the above named classes? What drug will relieve asthma in stimulant does? Such a drug, he believes, we possess in strychnine. Of course we must bear in mind that all stimulants are only supplementary agents which maintain the functions of the body without any direct material support to the same; but there is also good reason for believing that they cause the tissues to appropriate a larger amount of nutritive material than they would otherwise do, and in this way our stimulant drugs become tissue builders. It has been shown that the power of strychnine in this respect is greater than that of any other stimulant. This drug has a special affinity for the nervous system, which action is especially accentuated on the respiratory centre and pneumogastric nerves. In stimulant doses it gives a supporting influence to the respiratory movements, and, unlike morphine, lobelia, belladonna, or nitro-glycerin, it does not depress or narcotize the nervous system. Asthma,

being a spasmodic disease, in what manner does strychnine bring relief? How does it act as an anti-spasmodic? The most probable theory of the spasmodic state is that there is, at the beginning of the paroxysm, a super-abundant discharge of nerve force through the pneumogastric nerves which throws the bronchial muscles into contraction. But whatever the intimate nature of this condition may be it is evidence of nerve degradation or nerve weakness, and strychnine, by elvating the tone of these nerves, increases the controlling power of the same.

A stimulant dose of strychnine will depend on the age of the patient, and the length of time during which the drug has been given, although asthmatics, as a rule, will bear larger doses of strychnine than most other patients. Begin, as a rule, with $\frac{1}{30}$ of a grain subcutaneously once a day, and gradually increase to $\frac{1}{20}$ or to $\frac{1}{10}$ of a grain, or more, if necessary, to impress the system with its full stimulant effects. Do not waste your time with small doses. To these amounts of strychnine small doses of from $\frac{1}{100}$ to $\frac{1}{60}$ of a grain of atropine may be added. It is best to administer these drugs in the evening, because asthma is noctural in its attacks, and your patient should be protected at night so that he can sleep Additionally to its hypodermic use, this drug may be given in the following combination :

℞.—Phenacetini, ... gr. lxiv.
Quinæ sulph., ... gr. xxxii.
Ammon. muriat, ... ʒ iss.
Pulv. capsici., ... gr. iv.
Strychninæ sulph., ... gr. $1\frac{1}{8}$.
M.—Ft. capsulas, No. xxxii.
Sig.—One capsule four times a day.
Or in the following :
℞.—Strychninæ sulph., ... gr. $1\frac{1}{8}$.
Syr. acid. hydriodici, ...
Syr. hypophosph. . . . . āā ʒ iss.
Sig.—One teaspoonful four times daily.

In fact, light cases of asthma require no hypodermic injections, and do well enough where the above-named preparations are given. In severe cases it is, of course, advisable to add morphine or nitro-glycerine to the strychnine and atropine treatment, especially at the beginning. This treatment will break up the paroxysms, but even after they are broken, many old asthmatics still remain in the most abject misery. They may be compelled to sit up day and night, panting for breath, and still labor under the impression that they are suffering from asthma. This is a mistake, it is not asthma, but the natural state of exhaustion which follows asthma. The respiratory movements as well as the whole nervous system are almost completely paralyzed. It is the disorder and chaos following the flood. The dyspnœa is not paroxysmal as before, but is felt now on the slightest exertion. This stage of the disease is most important from a therapeutic standpoint. Nitro-glycerine, lobelia, and other narcotics are of no use. Rest is essential now; they must do absolutely nothing; lie down if they can, or sit still. I have known patients who were breathing comfortably, bring on a most severe exhaustion-dyspnœa by merely undertaking to write a letter. During the rest-treatment give food of the most nourishing character, such as freshly expressed beef juice, a cupful a day, beef powder, beef, mutton, milk, oysters, clams, etc. In this stage strychnine is also of the greatest value; massage is also to be used in desperate cases. Electricity is also of great service, so are rarefied air and calisthenic exercises, obtained in the pneumatic cabinet-treatment. To procure sleep at night morphine may be added to the hypodermic injection of strychnine.

Success in treating asthma depends as much on the proper management of the individual as it does on the administration of drugs in the proper doses, and at the proper time. Principles can only be carried out by paying attention to details, hence each patient must be under the complete control of his physician in regard to his food, medicines, exercise, and everything else. This pertains particularly to old asthmatics who are constant sufferers. If the instruction which is given this evening is closely followed, there are very few cases which will not yield to it; and, as an illustration of what may be done in desperate cases, I will conclude by relating the condensed histories of the two following cases, the second of which is still under occasional observation :

CASE I.—A, aged 46, a sufferer from asthma for thirty-five years—the attacks becoming more frequent and severe during the last three years. For four weeks before coming under observation, he had been unable to lie down on account of his disease. The injection of strychnine, gr. $\frac{1}{25}$ and

morphine, gr. $\frac{1}{15}$ gave him almost immediate temporary relief. The morphine was discontinued after the second day, and one minum of a one per cent. solution of nitro-glycerin every four hours was substituted. The strychnine was gradually increased, and the nitro-glycerin omitted in the course of a week. Additionally he was kept quiet, received nourishing food and strychnine by the mouth. In three days he was able to lie down, and in ten days more the asthma ceased.

CASE II.—B, aged 50, an asthmatic for twenty-five years. Daily attacks for one year, during which time he had been unable to lie down, day or night. Came under observation six weeks ago, and received about the same treatment as the previous case. The relief was prompt after each injection, but this had to be continued nightly for five weeks to keep the stubborn disease in abeyance. In two weeks he was able to lie down, and is now practically well.

MATTEI'S CANCER CURE (?)

Some few years since a certain Count Cesare Mattei published a work on what he termed electro-homœopathy, a new system of medicine based upon a most fantastic theory of vegetable electricity. This work went through many editions, and was translated into German, French and English.

An old castle that he occupied in Italy speedily became the Mecca of many invalids suffering from all sorts of complaints, and the Count pursued his studies and prepared his medicines in a secret room, in an isolated tower that was filled with warlike utensils as well as the peaceful accessories of science. The reason of this was, the Count was apparently in fear that his remedies would be wrested from him.

His pretensions impressed many educated people. Lady Paget, and Mr. W. T. Stead have separately published papers in English periodicals advocating his methods, especially that of curing cancer without the aid of the knife, which of course, always appeals to the credulity of the general public. An investigation committee, consisting of the late Sir Morell McKenzie, Mr. Lawson Tait and Dr. G. W. Potter, was appointed by the British Medical Association, and the later gentleman publishes its report in the *British Medical Journal* for August 13th. It is stated that the doctrines of Mattei were being propagated to such a large extent in England, where it was practised even by regular medical practitioners, that the committee, while never doubting the ultimate results of their investigations, considered it necessary to give the matter serious and careful attention.

The Matteists declined to inform the gentlemen of the committee of the composition of their remedies, and it was assumed that it was not to treat cases, but to see cures and admit their accomplishment, that the committee came. While it was affirmed that cancer would be cured, if still in the "first or second stage," yet patient after patient sent in by the committee was refused upon one ground or another.

This put Mr. Stead in the position of having to expose the Matteists in his journal, the *Review of Reviews*, if they continued to refuse to treat the patients sent in, so they were obliged to accept five, out of a large number having cancer of the breast, submitted for experiment. The patients were carefully watched from week to week for a year; and the members of the committee, in turn, regularly inspected them and noted their progress.

When Sir Morell McKenzie died, Mr. H. A. Reeves and Mr. John Hopkins were added to the committee. The patients grew gradually worse, just as if no treatment of any kind had been tried. The Matteists tried in various ways to bring the examination to a close by accusations against the gentlemen above named of having broken one of the rules of the committee, and at last were successful in so doing.

The committee consider Matteism, "to consist exclusively of vulgar, unadulterated, unredeemed quackery." An analysis of the "electricities" so called, yielded no other reaction than that of simple distilled water, and the result of their administration confirmed this analysis. The report concludes as follows: "The savage trusts to his armlet; the civilized man, both in the upper and lower circles, submits himself with childish, if not child-like, simplicity to the pretences of the quack. It is a strange world; but, such as it is, open and honorable medicine has to live in it, and work in it, and must make the best it can of so wonderfully varied an environment."

THE FIRST PAN-AMERICAN MEDICAL CONGRESS.

The Americans always do anything of a national character on a grand scale, as befits so great and progressive a nation. The preliminary announcement of the above Congress, to be held at Washington, Sept. 5th, 6th, 7th and 8th, 1893, is an evidence that it will be a great meeting.

A goodly number of Canadians are named as officers. Dr. J. F. W. Ross, Toronto, is our representative on the Executive Committee. In the Section on Medicine, Dr. Moorehouse, London, is Secretary; Section on General Surgery, Secretary, Dr. F. G. Roddick, of Montreal; Section on Military Medicine and Surgery, Honorary Presidents, Surgeon-General Bergin, of Cornwall, and Surgeon Strange, of Toronto; Section on Obstetrics, Honorary President, Dr. Adam H. Wright, of Toronto; Secretary, Dr. J. C. Cameron, of Montreal; Section on Gynecology and Abdominal Surgery, Honorary President, Dr. James F. W. Ross, of Toronto; Section on Therapeutics, Honorary President, Dr. A. D. Blackader, of Montreal; Secretary, Dr. J. L. Davison, of Toronto; Section on Anatomy, Dr. F. L. Shepherd, of Montreal; Section on Physiology, Honorary President, Dr. Wesley Mills, of Montreal; Secretary, Dr. A. B. Macallum, of Toronto; Section on Diseases of Children, Honorary President, Dr. A. D. Blackader, of Montreal; Section on Pathology, Honorary President, Dr. L. D. Mignault, of Montreal; Secretary, Dr. John Caven, of Toronto; Section on Ophthalmology, Secretary, Dr. G. H. Burnham, of Toronto; Section on Laryngology and Rhinology, Honorary President, Dr. Stephen Dodge, of Halifax; Secretary, Dr. G. W. Mayor, of Montreal; Section on Otology, Honorary Presidents, Dr. J. C. Connel, Toronto, Dr. Stephen Dodge, of Halifax, Dr. J. W. Good, of Winnipeg, and Dr. G. Sterling Ryerson, of Toronto; Secretary, Dr. D. G. Wishart, of Toronto; Section on Dermatology and Syphilography, Secretary, Dr. J. E. Graham, of Toronto; Section on Hygiene, Climatology, and Demography, Honorary Presidents, Dr. E. P. Lachapelle, of Montreal, and Dr. F. Montizambert, of Quebec; Section on Marine Hygiene and Quarantine, Secretary, Dr. J. J. Cassidy, of Toronto; Section on Orthopædic Surgery, Secretary, Dr. B. E. McKenzie, of Toronto; Section on Diseases of the Mind and Nervous System, Honorary President, Dr. Joseph Workman, Toronto; Secretary, Dr. Stephen Lett, of Guelph; Section on Oral and Dental Surgery, Honorary President, Dr. J. B. Willmott, of Toronto; Secretary, Dr. Luke Teskey, of Toronto; Section on Medical Pedagogics, Honorary Presidents, Dr. Fife Fowler, of Kingston, Drs. Walter B. Geikie and Adam H. Wright, of Toronto; Section on Medical Jurisprudence, Secretary, Dr. N. A. Powell, of Toronto; Section on Railway Surgery, Secretary, Dr. J. G. Roddick, of Montreal.

Auxiliary Committees, one formed for each State and country. For Canada we have Dr. Jas. F. W. Ross, Toronto; Dr. John L. Bray, Chatham; Dr. James E. Graham, Toronto; Dr. H. P. Wright, Ottawa; Dr. Herbert S. Griffin, Hamilton; Dr. Vincent H. Moore, Brockville; Dr. Charles E. Barnhart, Grey; Dr. Walter H. Moorehouse, London; Dr. J. L. G. McCarthy, Barrie; Dr. John Bostwick Lundy, Preston; Dr. Howitt, Guelph; Dr. Henwood, Brantford, Dr. Boucher, Peterboro'; Dr. Wm. H. Henderson, Kingston: Dr. Taylor, Goderich; Dr. Eakins, Belleville; Dr. D. S. Bowlby, Berlin; Dr. D. H. Moore, Brockville; Dr. Robt. Astley Corbett, Port Hope; Dr. J. G. Scott, Seaforth; Dr. Albert B. Welford, Woodstock; Dr. Francis E. Shepherd, Montreal; Dr. F. J. Austin, Sherbrooke; Dr. Eusebe Napoleon Chevalier, Iberville; Dr. E. P. Lachapelle, Montreal; Dr. M. J. Ahren, Quebec; Dr. R. A. D. King, Compton; Dr. J. A. Hamel, Riviere; Dr. E. Gervais, Three Rivers; Dr. W. S. Muir, Truro; Dr. A. D. MacGillvary, South Sidney; Dr. John C. McDougall, Amherst; Dr. W. H. McDonald, Antigonish; Dr. John Stewart, Picton; Dr. H. B. McPherson, North Sidney; Dr. Willis B. Moore, Kentville; Dr. C. J. Gossip, Windsor, N.S.; Dr. D. A. Campbell, Halifax; Dr. Augustus Robinson, Annapolis; Dr. Miller, New Glasgow; Dr. Farrish, Liverpool; Dr. Chown, Winnipeg; Dr. J. A. Macdonald, Brandon; Dr. Robert Wilson, Morden; Dr. J. Z. Currie, Fredericton; Dr. Murray McLaren, St. John; Dr. John S. Benson, Chatham; Dr. H. B. Chandler, Moncton; Dr. Ferdinand L. Pedolin, New Castle; Dr. Alfred Harvey, St. John, Nfld.; Dr. J. H. C Willoughby, Regina.

GOLDEN RULES OF SURGICAL PRACTICE—*Continued.—(Times and Reg.):*

OPERATIONS.—Never permit a naked light to approach the ether apparatus in anæsthetizing. Never neglect in all operations which will produce a shock to the urinary system—*e. g.*, varicocele, fistula, piles, radical cure of hernia—to ascertain, before the operation, if the urthera canal be without stricture, for sometimes stricture is found in relieving retention after operation, and you may be unprepared for the obstruction.

Never neglect to examine the lungs in all cases of ischio-rectal disease and fistula in ano.

In inserting plugs or plug appliance, for colotomy, gastrostomy, or drainage tubes for abscesses, or wounds, especially in thorax, always see that the end of the plug or drain is properly secured.

Never operate without first examining the urine for albumen and sugar.

Never apply an elastic (Esmarch) bandage to render a limb bloodless if tuberculosis or gangrene is present.

Never forget a patient's age in years is not the index to his "vis" or "last." *Vide* "Errors in the Chronometry of Life," "Paget's Old Note Book."

PELVIS.—Never forget to determine the absence of a foreign body in buttock wounds.

Always ligature a bleeding vessel in the buttock at once, even at the risk of a deep dissection.

In fracture of true pelvis do not carry out passive movements very actively, in order to elicit crepitus.

Remember the serious consequences which may ensue from the displacement of a pointed fragment

In falls on the buttock or rump in fractured pelvis, or blows in the belly, never omit to empty the bladder, if the patient cannot.

RECTUM.—Never forget in fistula in ano to eliminate tertiary syphilitic, strumous, or dysenteric ulceration, stricture and malignant disease of the rectum.

Remember the saying, "No internal opening to a fistula, or a blind fistula is usually a blind surgeon."

Do not forget the probable need for a catheter after an operation on the rectum.

SHOCK.—In shock and collapse never forget that the essence of successful treatment is to obtain time for your patient to rally. Keep the heart going, but do not trade on its exhausted power; maintain its action, do not force it.

SINUS.—Never neglect the hint the guardian papillæ give of the irritating focus deeper down.

Never neglect the therapeutics of rest.

Never neglect to slit the forks and the burrows up as well as the sinus.

SPINE.—Never forget that in fracture of the spine the tendency to death is due to pneumonia and complications, if the fracture is situated high up, and to urinary inflammation and bedsore, if lower down.

Therefore never forget the atonic bladder or the back. The urethra is insensitive, therefore use your catheter with care and gentleness; let it be clean and smooth.

Never neglect to see for yourself that the back has been kept clean.

Never puncture a spina bifida in the median line, always at the side, taking in the skin; *avoid* air, and close puncture securely.

Never suspend by the head alone in adjusting a Sayre's jacket for Pott's curvature of the spine; let the toes and armpits help to support the weight.

Never forget that the earlier stages of caries are not accompanied by any decided symptoms. When curvature exists there is no longer room for doubt, but do not wait for curvature.

Never permit a patient who has sustained an injury to the back to quit the casualty department until he has passed water. [Bloody urine will show at once that the kidney has been injured.]

TREATMENT OF CHLORISIS.—Dr. Schubert, in *Rev. de Therap. gen. et Thermale* (*Med. Brief*), says: The treatment may seem paradoxical, however, the author has many times established a clear amelioration in chloretics following epistaxis or hematemesis. Dyes was the first to restore this method. Having been called to attend a woman with grave chlorosis, whose death was hourly expected, Dyes, after considerable hesitation, decided to take about three ounces of blood from a vein. The effect was striking; at the end of some days she was greatly improved; after five weeks of treatment her face had regained its color, and since then, she has given birth to four children. Wilhelmi has published thirty cases of

chlorosis treated by bleeding, and he concludes that the more nearly the chlorosis approaches the typical form the stronger is the indication for the operation, and the more striking the results. Schultz has, for a score of years, employed diaphoretics in the treatment of chlorosis, combined with laxatives and blood-letting. After the bleeding the patient should rest in bed for twenty-four or forty-eight hours, and be given acidulous drinks, and be allowed to eat at will. The consecutive effects are, according to Schubert, abundant perspiration, a feeling of hunger, sleep, and a sense of well-being. At the time of bleeding the patient should be lying down in bed; immediately after, favor the diaphoresis.

Gynæcological Work among Insane Women.—Dr. George H. Rohe of Catonsville, Md., read a paper upon "The relations of Pelvic disease to Physical Disturbances in woman." The author pointed out the frequency with which bodily conditions influenced mental states. Thus a torpid condition of the intestines, Bright's disease, putrefactive processes in the intestinal canal, etc., might give rise to melancholia and other disorders of the mental functions. It is not irrational to suppose likewise that diseases of the femal sexual apparatus would have a not inconsiderable influence in the production or perpetuation of mental disorders as a contribution to the knowledge of the subject the following report was submitted. In a hospital containing 200 insane women, 35 were subjected to vaginal examination and 26 found with evidences of pelvic diseases. In 18 of these the uterine appendages were removed with the following results: Sixteen recovered from the operation and two died. Of the sixteen recovered, three have been discharged from the hospital completely restored, both physically and mentally. In 10, considerable improvement followed the operation in both physical and mental conditions, and in three the operation was of too recent a date to allow any definite expression of opinion. The mental disorder present in the 18 cases was melancholia in six cases, simple mania in one, puerperal mania in four, hysterical mania in one, periodic mania in two, hysterro-epilepsy with mania in one, and epilepsy with mania in three. The author basing his opinion upon his experience, concludes as follows: "The facts recorded demonstrate, first, that there is a fruitful field for gynæcological work among insane women; second, that this work is as practicable and can be persued with as much success in an insane hospital as elsewhere; and, third, that the results obtained not only encourage us to continue in the work, but require us, in the name of science and humanity, to give to an insane woman the same chance of relief from disease of the ovaries and uterus that a sane woman has."

Puerperal Insanity.—In closing an article upon this important theme (*Jour. Am. Med. Assoc.*) Dr. Rohe, of Baltimore, says:

Time is lacking to review here in the unsatisfactory theories that have been propounded to account for the origin of puerperal insanity. I offer here no theory, but submit the cases which I believe justify the following conclusions:

1. Puerperal insanity is, in at least the large majority of cases, an infection psychosis.

2. Without rejecting the influence of other factors, such as heredity, anæmia, exhaustion, mental shock and distress, careful observation will show that few cases of puerperal insanity occur without preceding or coincident puerperal infection.

The reasons for this opinion may be briefly summed up as follows:

1. Puerperal insanity occurs in the great majority of cases within the first ten days after delivery—about one-half in the first five days—the same period during which puerperal infection usually occurs.

2. It is usually accompanied by elevation of temperature and other evidences of febrile disturbance.

3. The clinical form in which puerperal insanity manifests itself is, in the majority of cases, that of acute, delirious, or confusional mania. Depressive states are rare except as secondary forms. In other words, the most frequent condition is one most closely resembling febrile delirium.

4. The death-rate is much higher than in simple mania. Death occurs from exhaustion, usually with high temperature and rapid pulse.

5. Post mortem examinations, though apparently infrequent in these cases, have shown grave involvment of the pelvic viscera.

6. Examinations of the pelvic organs during life

show lacerations of the perineum and cervix uteri (facile channels of infection in the puerperal woman). As secondary conditions are found intra-pelvic (peritoneal) inflammations, and consequent abnormal locations, fixations and congestions of the uterus, tubes and ovaries.

7. The results of operations seem to show that removal of local sources of irritation increases the chances of recovery from the mental disease.

Sanitation and Hygiene at the World's Fair.—The Bureau of Hygiene and Sanitation of the World's Columbian Exposition has been organized to prepare a collective exhibit illustrative of the present condition of sanitary science. Starting from the standpoint that "the common health is the common wealth" and that hitherto sanitation and sanitary science have not received that amount of general public support which their importance demands, the Bureau will seek to set before the visitors to the Exposition such a representation of sanitary work and sanitary aid as will help to lift the general mind to a higher plane in its estimate of the work of sanitation. Not even the most exaggerative optimist would assert that the sanitary arrangements of our chief and best-cared for cities are perfect, while it is well known that those of smaller towns and villages are of the most reprehensible type. On the other hand the pessimist cannot deny that the last two decades have seen very great and very marked improvements in the theory of hygiene as a science and in its practice as an art; the "vantage ground" thus gained, it is to be hoped, will be but a new base from which a more general and complete advance all along the line may be made.

Urinary Gravel.—Dr. E. Golovine, a Russian physician, is convinced (*Med. Abstract*) from a number of observations he has made, that the prolonged use of a mixture of equal parts of calcined magnesia and prepared chalk gives the best results in gravel and nephritic colic. With this mixture, in doses of two teaspoonfuls three times a day with the meals, without any alteration in the diet, he has obtained the rapid suppression of the deposits of urates and oxalates in the urine; the disappearance of the neuralgia of the sciatic nerve, so frequently seen in these cases; and the paroxysms of nephritic colic, formerly common, no longer appear. M. Golovine explains the favorable action obtained on the hypothesis that the chalk and magnesia, combining with the phosphoric acid, set at liberty a quantity of soda sufficient to neutralize the uric acid.

Appendicitis and its Treatment.—Prof. A. Iverson, of Copenhagen (*Thesis*), relates two successful cases where the patients exhibited the well-known symptoms of perforation of the vermiform process, where the removal of the appendix vermiformis was performed. The appendix had a thickened and inflamed wall, was fixed to the environs by peritoneal adhesions, and contained muco-purulent fluid. The author recommends the removal of the vermiform process (1) when symptoms of inflammation of this organ recur several times, (2) when there are signs of distension of it from pus, and (3) in cases of intra-peritoneal abscess.

The Treatment of Pleurisy.—M. Trasbot contributes a very interesting paper (*L'Abeille Med.*) to the discussion at the French Academy of Medicine, treating the subject from the standpoint of the veterinarian. He concludes that: 1. The sero-fibrous pleurisy of animals has nothing in common with tuberculosis. 2. Frequently the relation between its development and chilling is indisputable. 3. It is impossible to liken the sero-fibrinous pleurisy of the horse to an eruptive fever, or to a cyclic disease. 4. Antiphlogistic medication and derivative applications surely exercise an advantageous action. 5. Thoracentesis can be done without danger to the horse, and constitutes a measure to which we may have recourse before the effusion gives rise to asphyxia.

Ratio of Physicians to Population.—Dr. P. H. Millard, of Minn., in a paper recently read before the American Academy of Medicine (*Coll. and Clin. Rec.*), gave the following as the ratio of physicians to population in various parts of the world:—

Sweden	1 to 7,000
Italy	1 to 3,500
Germany	1 to 3,000
Austria-Hungary	1 to 2,400
France	1 to 2,000
United States	1 to 600

Laryngismus Stridulus.—*Nouveaux Remédes* recommends the following:

R—Chloroform . . . . 5 to 10 drops.
Water . . . . . ʒ vi.
Glycerine . . . . . ʒ ii.
Sig.—Teaspoonful every half hour.

Dr. Lapthorn Smith, of Montreal, was elected a Fellow of the American Gynecological Society, at its recent meeting in Brooklyn.

Books and Pamphlets.

The Medical News Visiting List for 1893 has been thoroughly revised and brought up to date in every respect. The text portion (32 pages) contains the most useful data for the physician and surgeon, including an alphabetical Table of Diseases, with the most approved Remedies, and a Table of Doses. It also contains sections on Examination of Urine, Artificial Respiration, Incompatibles, Poisons and Antidotes, Diagnostic Table of Eruptive Fevers and the Ligation of Arteries. The classified blanks (176 pages) are arranged to hold records of all kinds of professional work, with memoranda and accounts. Four styles are now published: Weekly (dated, for 30 patients); Monthly (undated, for 120 patients per month, and good for any year); Perpetual (undated, for 30 patients weekly per year); and Perpetual (undated, for 60 patients weekly per year). This last style consists of 256 pages of assorted record blanks, without text. *The Medical News Visiting List* adapts itself to any system of keeping professional accounts. Each style is in one volume, bound in handsome red leather, with pocket, pencil, rubber, and catheter-scale, price $1.25. When desired, a Ready Reference Thumb-letter Index is furnished, which is peculiar to this Visiting List, and will save many-fold its small cost (25 cents) in the economy of time effected during a year. In short, every need of the physician seems to have been anticipated in this work.

Leonard's Physician's Pocket Day-Book, bound in red Morocco, with flap, pocket, pencil-loop and red edges. Price, post-paid, $1. Published by *The Illustrated Medical Journal Co.*, Detroit, Mich.

This popular day-book is now in its fifteenth year of publication. The front part of it is occupied with dose tables, and other useful pocket memoranda. It is good for *thirteen months*, from the first of any month that it may be begun, and accommodates daily charges for 50 patients, besides having cash department, and complete obstetric records. There are also columns for the diagnosis of disease, or for brief record of the treatment adopted, following each name-space. Name of patient needs to be written but three times in a month. The book is 7½ inches in length and is 3½ inches wide, so that it will carry bill-heads or currency bills without folding. It is bound in flexible covers, *and weighs but five ounces*, so that it is easily carried in the pocket.

Over 1,000 Prescriptions and Favorite Formulæ from Authors, Professors and Practising Physicians. Cloth, 12 mo., post-paid, $1. *The Illustrated Medical Journal Co.*, Detroit, Mich.

The various formulæ contained in this volume are *practical prescriptions* of new and old remedies for the various types of disease that affect mankind. *They are the favorite ones*, of the various authorities, for the diseases indicated. The *Index* is full and complete, thus rendering the whole book easy of access. The volume is copiously interleaved, so that on the blank pages can be recorded, by pasting or copying with pen or pencil, any other prescription suitable for any disease that is on the opposite page of the book; the complete index thus indexes each new formula you may see fit to copy into the pages of the volume. The whole is comprised in a handy cloth-bound volume of nearly 300 pages, and will be mailed to any address upon receipt of its price by the above publishers.

Manual of Practical, Medical and Physiological Chemistry, by Chester E. Pellew, E.M., Demonstrator of Physics and Chemistry in the College of Physicians and Surgeons, New York, etc. With illustrations, pp. 314. New York: D. Appleton & Co. 1892. Toronto: Carveth & Co.

This is an excellent work for students who should, although they do not always, take a course with not too much pure chemistry. The author seems to have appreciated the necessity of making his work fit in with the medical student's other studies, every subject and every test having some relation to such other work. The lessons deal with physiological chemistry, with the food-stuffs and their products of assimilation with the different fluids and tissues of the body. Much attention has been given to the latest chemical tests, *e. g.*, breast-milk and gastric juice. The work seems practical and in the right direction for medical students.

THE CANADA LANCET.

A MONTHLY JOURNAL OF

MEDICAL AND SURGICAL SCIENCE, CRITICISM AND NEWS.

Original Communications.

DISINFECTION AFTER INFECTIOUS DISEASE

BY WM. J. GREIG, B.A., M.D., L.R.C.P., ENG., TORONTO.

Not many years ago the etiology of epidemic diseases was wrapt in mystery. It was known that their propagation depended on the diffusion of a virus, but the exact nature of this was uncertain. Bristowe says that formerly these diseases were believed to be due to some mysterious influence which diffused itself like a vapor over the surface of the infected region, involving equally the whole population, modifying the already prevalent diseases, and causing the specific troubles in those who were liable to them. Of late years, increased knowledge, arising from the study of the germ theory of disease, has given us new, more exact, and, we hope, more correct information concerning etiology.

Recent investigations would appear to show that certain of the specific infectious diseases are caused by micro-organisms. These are anthrax, diphtheria, typhoid, relapsing fever, erysipelas, cholera, pneumonia, glanders, tuberculosis, pyæmia, septicæmia, malaria, tetanus, leprosy, and actinomycosis.

In other diseases of the infectious class, the propagation of which is dependent on a virus of some kind, analogy would indicate that micro-organisms are also the cause. The similiarity in contagiousness, the existence of a period of incubation, the prodromal symptoms, regular course and protection for a time in certain of these diseases against another attack would pre-suppose that the nature of the contagion in the doubtful diseases is similar to that of which we are more certain. These diseases are typhus, variola, vaccinia, scarlatina, measles, mumps, varicella, pertussis, influenza, dengue, cerebro-spinal meningitis, yellow fever, dysentery, rabies, syphilis.

In disinfection after any of these diseases, they must be all treated on the supposition that they are caused by micro-organisms.

The diseases which we will specially consider on account of their very frequent occurrence, are scarlet ever, measles, diphtheria, tuberculosis, pyæmia, septicæmia, erysipelas, typhoid, variola, cholera.

In scarlet fever the contagion is especially to be feared during desquamation. There is a difference of opinion amongst authorities as to the exact period of infectiousness of this disease. Dr. Squire, the writer in Quain's Dictionary, states that the infection exists during the whole duration of the disease. Eustace Smith and Bristowe state that it is not to be feared so much during the first few days. Osler questions whether the contagion is ever developed before the eruption appears. It must remain as an undecided point until the germ of the disease is discovered.

In regard to measles, a German investigator and Dr. Booker, of Johns Hopkins, have each discovered a germ which was constantly present in the throats of the cases of the disease examined. This germ was cultivated and inoculation experiments performed on animals, but with negative results. It may be that the animals used were insusceptible to the disease, and that the germ found was really the specific germ. But so far the chain of reasoning is not complete.

In diphtheria, it has been proved experimentally, that the Klebs-Lœffler bacillus is the cause of the disease. This organism is thrown off in the mucus discharges from the throat and nose, and in the membrane, which may be expectorated. It is not thrown off in the breath, hence the extent of contagion during the disease is limited to a few feet. The bacillus in the active state cannot be carried by the air, but when discharged from the throat in mucus and membrane, and allowed to dry, may then be carried about freely.

In typhoid the germ is found in the stools, and it may also be carried in the air when dried. Some observers claim that it does exist in the blood, the urine and the rose-colored spots.

Erysipelas, pyæmia, septicæmia are infective diseases due to the presence of micro-organisms in some form, or of their poisons. Different organisms

have been found, but the most constant and the one which is considered to be the cause, cannot be distinguished from the pus-producing cocci, the streptococcus pyogenes.

Tuberculosis is due to the presence in the affected part of the tubercle bacillus. Like the Klebs-Lœffler bacillus in its moist state it is not carried by the air, or by the breath of the patient, but in the expectoration countless millions of the bacilli are thrown off daily. The following is fom Osler's Practice: "Nuttall, of Johns Hopkins, made some investigations in which he calculated that in the expectoration from a patient in the hospital, from one and a-half to four and a-third billions of bacilli were thrown off in twenty-four hours. When allowed to dry the sputa soon becomes dust, and is thus widely distributed. Cornet, under the supervision of Koch, made some very instructive observations on this point. He collected dust from the walls of various localities and determined its virulence by inoculation into susceptible animals. Material was gathered from twenty-one hospital wards, three asylums, two prisons, from the surroundings of sixty-two phthsical patients in private practice, and from twenty-nine other localities in which tubercular patients were only occasionally found. Of one hundred and eighteen dust samples from hospital wards and the rooms of phthsical patients, forty were infective, and produced tuberculosis. Negative results were obtained in some cases. In a room occupied by a tuberculous patient, the dust from the wall was infective for six weeks after her death."

These facts show us that too much stress cannot be laid on the contagiousness of tuberculosis. The sputa must be disinfected twice a day, and, of course, should be collected in a convenient receptacle. After the recovery or death of the patient, as much care should be taken in disinfecting the clothes, furniture and room, as after a case of variola.

In this connection I have much pleasure in referring you to an article by Dr. McPhedran, in the *Canadian Practitioner* of June 1st, 1891.

A few words in reference to epidemic pneumonia. The diplococcus pneumoniæ of Frankel is now considered by many to be the specific agent of the disease. It seems, however, to be found in the mouth of many perfectly healthy people. Hence the same need of disinfection does not exist after this disease. But people with weak lungs would be very wise to keep away from pneumonia cases.

Small pox has always been considered the type of a contagious disease and yet the specific organism, if there is such, has not so far been isolated. The contagion develops in the system of the patient and is reproduced in the pustules. It exists in the secretions and excretions, and in the exhalations from the lungs and skin. The dried scales, as dust-like powder are given off during convalescence, and distributed everywhere throughout the room. Hence, after this disease special care must be taken to disinfect, not only the room, furniture and clothes, but also the body and the liquid and solid excretions of the patient. This disease is contagious from the very first.

Asiatic cholera is one of the specific infectious diseases. It is caused by the presence in the bowels of the cholera spirillum, a genus of the spiro-bacteria, commonly called the comma bacillus, because its shape and curve are similar to that of a comma. Koch's investigations have proved beyond a doubt that this is the specific organism of the disease. This germ is constantly present in the fæces in the early stages of the disease. It is not present in the vomited matter, unless the intestinal contents have been brought up. The source of infection is, therefore, the discharges from the bowels obtaining access to the drinking water. Those who handle the dejecta and linen of cholera patients cannot be too careful to keep their hands disinfected. The germ is not carried by the air, as fortunately thorough drying kills it. It cannot exist as fomites; it is not carried by post or by merchandise, as three hours' drying kills it. Moisture is essential for its existence, and it can, therefore, only be carried by man. Of course if the germ obtains access to any material or position in which it retains its moisture, it will retain its vitality, and in that way may be carried by the mails or in merchandise. Persons with digestive derangements are more liable. It is very rarely that the germ can pass the healthy acid stomach, but an alkaline reaction favors its development. An overloaded stomach in which the acidity is almost neutralized, would assist the germ in obtaining access to the duodenum, in the alkaline reaction of which it would flouriah. The bacillus can multiply externally to the body in

suitable media, *e.g.*, moist linen, beef tea and potato. Stagnant water forms a very suitable culture ground. Fortunately it is easily killed. Koch found that 1 in 5,000 solutions of quinine and 1 in 100,000 solutions of perchloride of mercury killed it. SO_2 does also, but it is evident that the agent used must be different according to the media in which it exists.

Let us consider briefly the characteristics of organisms in general. The extremes of temperature at which growth is possible are 11°F. and 100°F. Do not understand me to say that they are killed at these temperatures. Growth is prevented. The most favorable temperature for development is 82°F. Other favorable conditions for growth are the presence of moisture and organic matter of a slightly alkaline or neutral re-action, and the absence of sunlight. But these conditions are not essential to life. They have been known to live for years in a dry state. They have been frozen in blocks of ice, and yet when restored to warmth have regained their vitality. Fresh air and sunlight seem destructive to them in length of time, varying with the organism from a few days to several months. When nutrition fails some of the varieties enter on the spore stage of existence in which they will live an indefinite length of time. The varieties which form spores so far as known are the bacillus of anthrax and of tubercle, and Welch says of diphtheria. In this state no evidence of life is given, but as soon as conditions favorable to life are renewed, the spore develops again into the same kind of a cell as that from which it originally came. I fear that a popular misapprehension exists as to the nature of these spores. We are apt to think of their namesakes on the back of the leaf of a fern. Our bacterial spore is entirely different. In its formation the original cell disappears, the cell wall falls away and the protoplasmic contents gather into a globular body in the centre of the old cell. Under the high power of the microscope it seems to have a delicate lining membrane.

Let us now enquire what the effect is of our different disinfectants on these growths. And first in regard to sterilization by dry and moist heat. In experimental work anthrax spores have been taken because they are the most difficult to kill. Dr. Parson's experiments made some years ago and published in a local Government report show that anthrax spores need four hours' exposure to dry heat at 212° F., or one hour's exposure at 245° F.; but were destroyed by from ten minutes to half an hour exposure to boiling water or steam at 212° F. Ordinary bacterial life is destroyed at a temperature of 140° F.

Dry heat lacks in penetrative power. Steam on the contrary penetrates quickly into the interstices of any fabric. The reason is as follows: As steam penetrates into the colder parts it condenses and occupies a very small fraction of its former volume, viz., $\frac{1}{1700}$, more steam rushes forward to supply its place and thus the fabric is soon saturated and sterilization occurs. Dry hot air, on the other hand, contracts in volume only $\frac{1}{4}$, and thus longer time and a higher temperature is required to produce the same result. Take, therefore, for example a mattress which has been exposed to the germs of anthrax. With dry heat at a temperature of 212° F. at the end of four hours the outside would have been sterilized; but a higher degree would be needed before the inside would be disinfected; result, the mattress would be destroyed by the excessive heat. And even with germs less resistant, needing a temperature of 140° F., the outside would need to be about 300° F. before the temperature in the centre would be high enough. These facts show us that dry heat is of very limited utility compared with moist heat in the shape of steam or boiling water.

Dr. Abbot, of Johns Hopkins, recommends a method which he calls intermittent sterilization. It is based on the idea that the spores are not killed unless germination has commenced. The fabric is to be exposed to a moist T. of 212° F. for fifteen minutes on each of three successive days, and during the interval to be kept at a temperature of from 53° F. to 60° F. to allow germination to proceed.

Neither moist nor dry heat should ever exceed 250° F., as scorching occurs, and even that is too high for white woollen goods. Steam causes a certain amount of shrinking in textile material and cannot be used in the case of leather. Dyed articles may have their color altered, and many substances are rendered brittle by over-heating.

Of all disinfectants, that most commonly used is SO_2, produced by the combustion of sulphur in free air. This gas has been used from the earliest times. It is recorded that the ancient Egyp-

tians used it and we are told by a Greek writer that Ulysses thus disinfected a palace captured by him. From those times until the acceptance of the germ theory of disease, and the more exact methods inaugurated as a result thereof, SO_2 has been used by successive generations without a doubt of its efficacy as a reliable disinfectant. Koch was the first to show that SO_2 was not omnipotent. He demonstrated that anthrax spores were not killed even when SO_2 in liquid form was poured over them. His results with material not containing spores were more satisfactory. It was attached to silk threads hanging in a closed chamber and exposed to the gas in the proportion of one volume per cent. In only one case did this fail. The micrococcus prodigiosus was not killed after four hours' exposure, but was after twenty-four.

Dr. Sternberg, of the United States Army, in 1884 performed a number of experiments for the American Public Health Association. His experiments were numerous, repeated several times and varied in character. His conclusion in regard to the action of the gas on spores was the same as that of Koch. His conclusion in regard to micro-organisms other than spores was that if free exposure to the gas resulted, the organisms were killed, especially if the gas was produced in the presence of moisture. If, however, the germs were protected, as for instance when folded in a blanket, or if placed on cotton wool and put in a coat pocket, the gas, even if produced in a large volume and in the presence of moisture, could not be depended on to kill them. Dr. Herman M. Biggs in 1887 performed for the New York Board of Health some experiments demonstrating what is known as the vacuum process. Micro-organisms, notably impure cultures of the cholera spirillum, were placed in the centre of a bale of rags. This bale was placed in a bell jar from which the air was then evacuated. SO_2 was introduced in 100 per cent. volume and the rags were allowed to remain exposed for different periods of time in the different experiments, the shortest being twenty minutes. After a large number of careful and varied experiments, his conclusion was that micro-organisms of all kinds excepting spores were killed. We must remember, however, that while the gas penetrated to the centre of a bale of rags and killed the germs, it did so only under pressure.

Approaching more closely, in its conditions, those that we meet in our every day practice, is the experiment performed at the New York Infant Asylum. In the winter of '87–88, diphtheria broke out. It extended to the adjoining maternity wards and attacked five of the new born children. One of them was suffering at the same time from an umbilical phlegmon. The ward was cleared, windows and doors closed, and all crevices filled up as well as possible. Ten pounds of sulphur to each 1000 cubic feet of space was burned, and the room allowed to remain for twelve hours. At the end of that time several medical gentlemen entered and proceeded to raise a dust by beating the floor with sticks. The dust was allowed to settle on culture media, and in due time cultures were developed. Great numbers of mibrobes overlying each other appeared under the microscope, and the streptococcus pyogenes was discovered identical in form with the streptococcus found in the umbilical phlegmon.

In this case the SO_2 failed, even though it was used in two and one half times the strength recommended in works of hygiene. It has been claimed that if the gas had been produced in the presence of moisture the results would have been better.

As a bleaching agent SO_2 will de-oxidise only in the presence of moisture, and if its action on bacterial life is of a similar character, evidently the presence of moisture is necessary. Dr. Squibb, of Brooklyn, the chemist, explains the action of the gas as follows: "By seizing on the oxygen of the air, and when that is exhausted on the oxygen of any moisture that may be present, in succession there are formed SO_2, H_2SO_3 and H_2SO_4. The organic matter (in this case the bacteria) is de-oxidised, the place occupied by the oxygen being filled with the H_2SO_4, and thus the organism is killed." Granted that SO_2 may act thus in some cases, it is evident that it has other modes of action, as shown in the experiments performed in a vacuum produced in a bell jar.

Our conclusions in regard to the value of SO_2 as a disinfectant are as follows. As ordinarily used it is a farce. When used in the presence of moisture, in the proportion of three or four lbs. of sulphur to the 1000 cubic feet of space, and in a room closed as completely as possible, it can be relied on to kill all bacteria which are on the surface and freely exposed to its action, excepting

spores. But as Dr. Sternberg says it is doubtful whether the result is as good as would be produced by thorough ventilation, and by washing all surfaces with a solution of bi-chloride of mercury.

The best method of using sulphur in practice is as follows. Sprinkled with alcohol it should be placed in an iron vessel, supported over a pail or tub of water and burned there. The room must not be opened for twelve hours, and then it should be opened and the air allowed to enter freely. Four pounds of sulphur to the 1000 cubic feet of space should be used, and the floor, walls and all articles of furniture freely sprinkled with water.

A much more reliable disinfectant is chlorine gas. This also requires the presence of moisture. Having a strong affinity for hydrogen, it unites with the hydrogen of the water, setting free nascent oxygen, which is a powerful oxidizer and destroyer of organic matter. The objections to chlorine are the difficulty of production and its destructive properties.

Practically, its use is limited to the amount of chlorine which is set free from chlorinated lime. Commercial chlorinated lime contains from 20% to 40% of free chlorine, when kept in an air-tight receptacle. It loses chlorine rapidly when exposed to air.

Experiments have shown chlorine gas in the proportion of 1 in 100 is an efficient germicide, being destructive to the life of spores. Even 1 in 400 is effectual against spores, but requires longer time.

Chlorinated lime is the best substance to use in disinfecting excreta, the most practical application being in typhoid. Four ounces of the best chlorinated lime is dissolved in a gallon of water, and one pint of this solution must be used to disinfect each passage. It should be mixed well, allowed to remain in the vessel at least ten minutes before emptying into the closet.

Corrosive sublimate in various strengths has always been considered one of our most reliable disinfectants. Many think that this salt is overrated, but that it is an effective agent is shown by its results in surgery. The objections to it are, 1st, that it is irritating; and 2nd, that it enters into chemical combination with the albumen of the tissues and of bacteria, an albuminate of mercury being formed, and thus its germicidal qualities are destroyed. The answer to these objections is that chloride of mercury is not irritating in weak solutions, and that any disinfectant is irritating in strong solutions.

And, again, that because albuminate of mercury is formed, the germicidal qualities of the salt are not destroyed thereby. To quote from the address of Dr. White, of Philadelphia, given in Toronto two years ago, "This precipitate (the albuminate of mercury), it was discovered by Sir Joseph Lister, possessed powerful antiseptic properties, with much less power of producing irritation; he, therefore, devised a form of antiseptic dressing called 'the sero-sublimate gauze,' which consisted of gauze charged with a solution of corrosive sublimate in the serum of the blood. This, however, was difficult to manufacture, and produced a harsh and non-absorbent dressing, which was mechanically irritating. It was succeeded by the salalembroth." These facts show us, on the authority of Sir Joseph Lister himself, that the precipitation of mercury by the albumin of the tissues does not destroy its germicidal qualities.

The Committee on Disinfectants of the American Public Health Association, after their investigations, concluded that for ordinary bacterial life 1 in 10,000 is sufficient, but that 1 in 1,000 is needed when spores are present.

It is generally accepted that bi-chloride acts as a disinfectant by entering into chemical combination with albumin. The proofs of this are, 1st, that heat is produced by the chemical action; 2nd, that the mercury can be precipitated from this combination by a solution of sulphide of ammonium. Geffert has demonstrated this re-action. If, then, this be true, why should a stronger solution be required to kill spores than to kill ordinary bacterial life? Why should the mercury in a 1 in 10,000 solution not enter into chemical combination with the albumin of a bacterial spore as well as with the albumin of bacteria? There appears to be an inconsistency here, of which I have seen no explanation.

Again, we must remember in the use of sublimate that its action is not selective. It will combine, not only with bacteria, but with any protoplasmic material which may be present. Therefore, it is scarcely a suitable disinfectant for some purposes. For instance, if used in typhoid stools or tubercular sputa, large quantities or strong solutions must be used, as chemical combination will take place with all the albuminous

material present. This introduces another point for consideration in the use of this drug. If the action of the drug is chemical, it follows that weak solutions in large quantities would be just as effective as stronger solutions in smaller quantities. The important point is that mercury enough must be present to combine with all the albuminous material present.

The conclusions, then, as to the most suitable use of corrosive sublimate are as follows. A standard solution of 1 in 1,000 may be recommended for the disinfection of bedding and clothing that can be washed; for washing the floors and walls of infected apartments. A weaker solution would probably be effective if we were sure of the absence of spores, but in the uncertainty of our present knowledge on this point, it is safer to recommend the stronger solutions.

A recent writer in the *Medical News*, in discussing the merits of mercuric chloride, claims that it is very much over-rated as a germicide, but is a valuable antiseptic. He states that it is little better than absolute alcohol, and quotes Klein, who has made the statement that it is no better than vinegar. He maintains that mercury enters into combination only with the albuminous envelope of the bacteria and that the germ itself is unaffected excepting inasmuch as it enclosed by a material which it is difficult to get rid of Albuminate of mercury, when in contact with woollen goods and other textile material, cannot be got rid of by any ordinary washing. The mercury, however, is precipitated from its combinations by salines, and by sulphide of ammonium. Thus the bacteria, still alive, are set free. In Koch's experiments, the bacteria, after being exposed to the mercuric solution, were injected under the skin of animals. The writer claims that different results would have been obtained had the germs been injected into the blood. That when injected under the skin the mercuric combination was broken, but that the germ was left lying in an antiseptic pool which prevented its action. Had injection been made into the blood the mercury would have been precipitated, carried away in the blood stream, and the germs left free to work their own sweet will. These statements, however, require verification.

Carbolic acid may be said to have been recognized as an antiseptic from the the time of its discovery in 1834, and has been largely used up till the present time. Experiments, however, have shown that excepting under impracticable conditions, it is not a useful disinfectant. Thus anthrax spores did not lose their power of germinating unless they were treated with a 5% solution for twenty-four hours. Again, it is volatile, so that in use, if we begin with a 5% solution, we may end with a 2% solution. Again, it is expensive. And in effective strength is hard to handle. 1% solution is effective against the germs of many diseases, notably the tubercle bacillus, but to produce these results, it was required to act for a number of hours.

We are all aware that the market is filled with so-called antiseptics and disinfectants. Several of these disinfectants, and the most effective of them, contained corrosive sublimate, as was shown by the simple experiment of dipping a polished piece of copper into the solution, when metallic mercury was found deposited on the surface.

Many of these commercial disinfectants failed to disinfect even in 50% solution. Others were effectual only in strength varying from 10% to 40%. In fact, the strength in which most of them must be used, would render the cost of disinfectants very high, compared with such cheap and efficient germicides, as mercuric chloride and chlorinated lime.

In conclusion; infectious diseases may be divided into three classes according to the precautions which are needed after them.

1. Among the diseases of this class must be included the following—diphtheria, scarlet fever, tuberculosis, variola. SO_2 cannot be depended on, because it lacks penetration, and does not kill spores. Thorough ventilation will, with the other means to be described, be sufficient. All paper should be stripped off the ceilings and walls. All surfaces, ceilings, walls, woodwork, floors and furniture should then be washed in a 1 in 1000 solution of mercuric chloride. The white walls and ceiling should then be either papered or white limed. Woodwork and floors should be painted and furniture varnished. If objection is made to stripping the walls and ceilings, the next best thing is to wipe them carefully with a thick crust of bread, which will clean off the dust and with it many of the bacteria.

Any clothing, drapery, or bedding must be dis-

infected in one of three ways according to the quality of the goods. Either boiled, or steamed over boiling water for from ten minutes to half an hour, or to be soaked in a bichloride solution 1.1000 for an hour.

In regard to mattresses, carpets and pillows the only effectual method is by the use of a large steam sterilizer, such as that in use at the isolating hospital in Toronto.

These articles cannot be treated satisfactorily at home. The Health Department should for a small fee undertake to do this work for the public. Excluding this method, let the articles in question, be heaped loosely on the floor and sulphur in proper quantities be burned. Afterwards let them be hung in the open air, well beaten and allowed to remain for several weeks.

Any article that is worthless should be burned. All expectorated matter, or cloths saturated with expectorated matter should be destroyed. Some authorities claim that they should be disinfected before burning.

2. This class will include diseases, the contagion of which is not so virulent, such as measles, pertussis, erysipelas, pyæmia, etc. Disinfection here should consist in burning sulphur in proper quantity in the room, having first arranged all the clothing and bedding in such a way that the gas will have free access to all parts. Afterwards thorough ventilation. Any clothing or bedding in contact with the person of the patient should be either boiled, steamed or soaked in a bi-chloride solution.

3. The diseases in which the contagion is contained in the bowel discharges, such as typhoid and cholera. All passages should be disinfected in the chamber before emptying, by the use of a solution of chlorinated lime. ℥iv. of the best commercial chlorinated lime should be dissolved in one gallon of water, and a pint of this used with each passage. They should be mixed well and allowed to stand ten minutes before emptying. In country places, or where there is no system of water works, they should be buried as far as possible from the water supply. It is a serious mistake to empty them into privy pits.

Any clothing or bedding which has been in contact with the patient should be boiled, steamed or soaked in a 1 in 1000 bi-chloride solution To protect the mattresses in these cases, it is an excellent plan to stretch a Mackintosh or any waterproof material under the sheet on which the patient lies.

DIPHTHERIA.*

BY W. J. WILSON, M.D., RICHMOND HILL, ONT.

Mr. President and Gentlemen,—It is not my intention to go into the whole subject of diphtheria in this paper, but only to consider a few points of practical importance relating to the spread and prevention of the disease. I bring the subject up in this form in the hope that the discussion following may tend to settle certain points and give us a more definite idea concerning them. It has been held for a long time that those not suffering from diphtheria in their own person could not carry it. This statement is made by a writer in "Reynold's System of Medicine," but as that was written before the germ of diphtheria was discovered, and as our theories have changed a great deal since that time, the author's opinions may have altered with the times. But more recently, Dr. Forchheimer, in the *International Clinics* for April, '91, says: "I know very well that the statement of eminent bacteriologists at the last International Medical Congress at Berlin, was, that diphtheria can be carried by clothes, cooking utensils, articles of food, etc., but *I have certain* reasons to doubt this. As these reasons were not given, I do not know what they are, but I intend to bring before you histories showing conclusively that such a person may carry diphtheria, and in the cases I bring forward, actually did do so.

In April, '88, diphtheria broke out in Markham township, in a poor family, there were two deaths and two or three recoveries. The family, lived in a small old frame house, which, after the children recovered, they vacated, to save the trouble of cleaning, and moved to a similar house of one story and three or four rooms about one quarter mile distant. After they moved, the father of the family, a farm laborer, who had not had diphtheria himself, went to work for a neighboring farmer. This farmer's child took diphtheria after a few days, and died. The farmer's wife took it, and had a very severe attack, but recovered. This man then went to

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work for farmer No. 2, in the latter part of June, and this farmer's hired man took diphtheria in the course of a week, and died after three days' illness. He next went to work for farmer No. 3, and in a week or ten days No. 3 and his hired man contracted the disease, both recovering. He then left No. 3 and went to work for farmer No. 4, and No. 4's two children took the disease in about the usual time, both recovering after a severe attack. This was July 4th, '88; this laborer having been at these four places during the month of June, and last few days of May. By this time people were afraid to employ him at their homes, and he was given work on the public roads. He worked at this till August 15th, when his eldest son, æt. 19, began to return home from the farmers where he had worked all summer, and he contracted diphtheria with extensive deposit in his throat and through his nose. He recovered, but owing to a resulting paralysis, did no more work till the following spring.

After the son's recovery they fumed the house with sulphur and carbolic acid, and washed up as well as they knew how. The father remained at home till November, when he returned to farmer No. 2, whose hired man had died from the disease in June. After working there a week or two, No. 2's son took diphtheria of a very malignant type, and died, the membrane having spread over his fauces, through his nose and into his larynx within three days. His mother next contracted the disease, but recovered after a very severe attack. These were the only two of the family who had the disease, as the other children were sent away as soon as the first one took sick, and did not return till all was thoroughly cleaned up.

There can be no doubt that ten persons contracted diphtheria from this one man, who as stated before, had it in his family but never had it himself. His oldest son took it by returning home in the evenings, three months after the other members of his family had recovered, and after they had removed to another house. This son again carried diphtheria to the next place where he went to work seven months after his own recovery. It is only fair to state that they were very dirty people and could not be relied on to carry out any sanitary measures.

The disease could not be accounted for in either of the four families by any communication between them, and there were no other cases in the district.

Another class of cases and one of great interest is to be found in those patients who have had the disease and have recovered but carry the germ in the recesses of their nose and fauces, or crypts of their tonsils. These cases are probably more numerous than one might think at first sight, two cases having come under my notice this spring, one where a young man came home discharged, cured but had a slight discharge from his nose following the diphtheritic attack. He gave dipthheria to two families of his relatives. The other where two children came to the country three weeks after the commencement of the disease. In the one child there remained a foul discharge from the ear On its arrival in the country its mother washed out the ear every day, and in ten days she contracted the disease.

A writer in Hare's System of Therapeutics states that the germ has retained its vitality for five months after being dried and that it will live longer where there is moisture. If this statment be correct there seems to be no good reason why diphtheria germs might not live and flourish for a great length of time in the mouth and crypts of the tonsil.

These facts make it very difficult to set any time limit when a child may safely return to school or mingle with other children, and unless the medical attendant knows more than is usual about the amount of cleaning and disinfection done after the disease is over, and has also made bacteriological examinations, he must necessarily have some misgivings in certifying that the child may return to school. Nothing should be left after an attack of diphtheria that has not been thoroughly cleaned and disinfected. A disinfectant wash should be used for mouth nose and throat in every case for some time after convalescence. The skin, hair, nails and ears should be thoroughly washed and no contaminated article of clothing worn. Great care must be taken in cleaning the household effects. It is here that mistakes are often made.

I know of one family where a new carpet was on the floor when diphtheria broke out. After they were all better, it was not thought necessary to take up this carpet, and it was not taken up for three years, but when they did take it up,

diphtheria again broke out in the family, and one of the daughters died. In another instance the carpet was put out of doors for a few days, and then rolled up and kept in an out-building for a year. When it was brought in at the end of that time diphtheria broke out again. In still another instance a young man had diphtheria, and on his recovery his room was simply papered over the old paper. The family then left the house, and the next family turned this room into a kitchen. It remained in the same condition for two years, when a girl took the paper off, and within a few days she had diphtheria. Now these cases go to show that either a remarkable coincidence occurred in each case, or else the germ lived respectively one, two and three years, and retained its virulence. I am inclined to believe the latter, and on this account friends should not be too hasty to visit those who have been sick, even after the usual means of disinfection, fuming, etc., have been gone through.

Sulphur is frequently burned in rooms where there is no moisture, and even if moisture be present, the amount necessary (about three lbs. to 1000 cubic feet) as shown by Sternberg's experiments, to thoroughly disinfect the place is not used. All contaminated articles should be exposed for twelve hours to sulphur fumes with plenty of moisture. Articles of clothing boiled or exposed to dry heat when possible, and walls, floors, and ceilings washed with hot solution of mercuric chloride (1 in 500). The main thing is not to miss anything, and make sure everything has had sufficient exposure to the action of a good disinfectant, and for a time longer than laboratory experiments require to destroy the germ. All mattresses, feather beds and pillows should be opened to ensure thorough exposure, and articles of little value are better burned.

BACTERIOLOGICAL NOTES.

COMPILED BY E. B. SHUTTLEWORTH.

Bacterium Coli Commune.—This bacillus is just now exciting considerable attention on account of the assertions of some bacterologists that it is similar to, or identical with forms which are attributed with producing more serious results. Rodet and Roux (*Arch. de Med. Ex.*), state their opinion, based on many experiments, that this bacillus and that of typhoid fever are, as has been previously asserted, one and the same organism, modified only by the existence of different pathological conditions. Inoculations with both bacilli produced the same variations in temperature, the same lesions, and the same experimental disease. Two other experimenters, Lesage and Macaigne, found that inoculations with *B. coli commune*, taken from a healthy intestine, were not pathogenic to man, except when very large quantities were used, but, under certain conditions, as when the intestines were irritated with tartar emetic, and diarrhœa was thus produced, the germs acquired activity, and became pathogenic. Again we have the statement, repeated in *Merck's Bulletin*, Oct., that the bacillus observed by Drs. Gilbert and Girode, in several cases of cholera, alleged to be *nostras*, were, in the opinion of many practitioners, no other than *B. coli commune*. The subject is, certainly, at present, in a rather confused condition. We have, in the first place, the assertion that the apparently harmless bacillus is identical with that of typhoid; then that the organism may pass from a non-pathogenic to a harmful form, and, lastly, that it may produce the symptoms and effects of cholera.

No doubt the subject will soon be cleared up, as a good many workers seem to be engaged upon it. In the meantime a little information in regard to the known history and characters of the bacillus may not be unacceptable. It was discovered by Escherich, in 1885, in the fæces of children fed exclusively on their mothers' milk, and has since been found to be constantly present in the alimentary tube of man and many animals. It is in the form of slightly curved rods, rather shorter than those of the tubercle bacillus, and about twice as thick. It can be cultivated on gelatine, potatoes, or blood serum, and thrives better at a room temperature than that of the body; it slowly coagulates milk with little or no formation of acid. It is said to require air, but, under certain conditions, may be be anærobic, and thus produces carbonic acid gas. It does not liquify gelatine. Inoculation with a cultivation produces in rabbits and guinea pigs an elevation of temperature, violent diarrhœa, and death. Since writing the above we have seen a notice of the report of G. W. Fuller, bacteriologist to the Massachussetts

State Board of Health, in which his conclusions directly militate with those of Rodet and Roux, first quoted. He has been engaged on various modes of differentiation of the typhoid bacillus. He finds that it is quite possible to distinguish this organism from *B. coli* but regards the potato test as worthless for this purpose. The non-coagulation of sterilized milk; the non-production or very slight formation of acid; and the turbidity produced, without evolution of gas, when the baccilli are grown in Smith's solution, are regarded as being perfectly diagnostic. Smith's solution contains 2 per cent. glucose, 1 per cent. peptone, and five tenths of one per cent. of common salt, rendered slightly alkaline with soda, as is ordinary nutrient gelatine.

New Method of Fixing and Staining.—The ordinary way of fixing sputum, blood, mucus, pus, etc., on cover glasses, by direct exposure to heat, as in passing them several times through flame, is always more or less risky, and, even when carefully performed, is liable to alter, to a greater or less extent, the form or size of micro-organisms. Dr. J. H. Byron, who recently read a paper on the subject, at a meeting of the New York Pathological Society, obviates the use of heat by substituting bi-chloride of mercury, which is made a constituent of one of the stains. Cover glasses are smeared in the usual way, and, without being allowed to dry, are at once put into an alcoholic solution, containing one per cent. each of eosin and bi-chloride. An immersion for one minute will be sufficient, when the cover should be carefully washed, and then put into dilute aniline-water gentian violet, followed by absolute alcohol, xylol, and balsam. In case of tissue sections the order of immersion should be alcohol, gentian violet, eosin, alcohol, xylol, balsam. Blood, by the first method, is said to give very good results. Red corpuscles are purplish-red, granules and plates red, and micro-organisms deep blue. We shall try this method and report hereafter.

Diagnostic Cultivation of the Diphtheria Bacillus.—The difficulty of obtaining and sterilizing a supply of blood serum render the method of Roux and Yersin inapplicable for the occasional requirements of ordinary practitioners. The plan recommended by Dr. Sahkaroff is not open to these objections. The shell of a hard-boiled egg is partly removed, so as to expose the albumen, and slices of a size suitable for insertion in a six inch test-tube are removed by a knife that has been previously sterilized by heat. The sterilization of the test-tube is accomplished by putting into it about two-thirds of an inch of water, plugging with cotton wool, boiling away about half the water, and, when cool, emptying quickly. A slice of egg is then inserted and charged by contact with a flattened platinum wire, with which a little of the membrane has been scraped. The plug of cotton is then re-inserted, and the tube set aside, at a temperature of 95° to 100° F. After twenty-four hours' incubation the albumen will show greyish growths of the bacillus, if present. Identification may then be accomplished by making a cover glass preparation, and staining with Lœffler's blue.

Relative Power of Germicides.—In the results of some experiments recently reported to the Societé de Biologie, Paris, M.M. Christmas and Respaut *(Mon. de la Pharm.)*, classed benzoic acid and chloride of zinc with phenol. A one per cent. aqueous solution of any one of these was sufficient to destroy in one minute the vitality of the bacilli of diphtheria, or typhoid.

Selected Articles.

EARLY SYMPTOMS OF MENTAL DISEASE AND THE PREVENTION OF INSANITY.

Mental disease is not quite so familiar a phrase as insanity, but I wish to make use of the former because it more faithfully covers the field to which I more especially desire to direct your attention. My preference for the term "mental disease" must not induce you to conclude that I necessarily always mean insanity. It may be perfectly legitimate and quite correct to speak of a case as one of mental disease without inferring or suggesting that it is also one of insanity. There is a wide gulf between the first symptoms of mental disease and actual insanity, and I hope I may not unprofitably ask you to consider a group of symptoms, or stage of mental disease, rarely seen except by the general practitioner.

As Dr. Savage says, "every perversion of nervous action, every unusual display of intellectual or moral force, is not to be regarded as a case requiring the interposition of the physician whose chief care has been for the insane." The general practitioner has, "more than most men,

opportunities of seeing a wide range of mental phenomena." The slightest deviation from normal mentalisation, the expression of strange and eccentric ideas, or other offences against sentiment and society are primarily deposited with the family physician. To no other member of the profession are such opportunities afforded of studying disease in its simplest and most curable forms, of employing preventive measures, and, in this particular instance, of averting future wrecks of humanity.

No sooner does one recall the painful incidents of an anxious case than there seems to re-echo from every quarter the regretful but familiar phrase "had I only been called earlier." Now, I much fear there is loss of time, loss of opportunity, and waste of material, because of the widely spread notion that mental disease is of a different breed from other diseases, and therefore not likely to be dealt with except under strained conditions and after consideration. All this is very humiliating, and one cannot wonder at the efforts being made to impart and infuse a better knowledge of mental disease among the general body of the profession.

However, it is no part of my duty to-day to express any opinion on this subject, but rather to exhort you to show a greater readiness and to display a stouter individual confidence in your association with cases of mental disease in their earlier stages. I am quite prepared to be told that even the family physician is not always consulted as early as he should be in such cases, but, allowing for this, the field is wide and the opportunities vast.

I would here say I leave untouched any consideration of those cases where the symptoms are patent and of sudden onset, or where the symptoms have reached the stage of full development before you are consulted.

In considering the early symptoms of mental disease it would be a wearisome and profitless task to attempt anything like a clinical exposition. Each form or phase of mental disease has premonitory signs and symptoms, though perhaps not always observed nor looked for. This may result from two causes. First, the reluctance of the patient or relatives to make known direct or collateral facts; and, secondly, a studied consideration on the part of the doctor not to wound feelings by pronouncing the symptoms as mental. It is of very much greater importance that the earliest symptoms should be observed, studied, and treated in certain cases than others, and for this reason: When there is a pronounced insane neurosis, or when the symptoms betoken organic disease, there is neither the same difficulty in diagnosis nor the same hope of recovery as when the symptoms are simple and possibly functional. It is often possible to trace back the symptoms to a period when no doubt surrounded the patient's mental powers, and when the subject was in full possession of social equality. I could not better illustrate the truth of this than by a short reference to two living examples from among many now in our wards.

Case I.—A. F., aged 32, married, was admitted in October, 1886. It was stated that the mental symptoms were of three months' duration. She was suffering from open maniacal perversion, with mixed sensory aphasic symptoms. On further inquiry we learned that, six years previous to this woman being considered insane, her friends were wont to be angry and annoyed with her for strange acts of conduct and mistakes in writing and calculation. She was a schoolmistress, and also managed the books of a small business. She would write absurd answers to business letters, and in her own private letters would misplace words. She was constantly "doing wrong," and making mistakes, for which supposed acts of carelessness she was frequently abused and most unkindly treated. Such were no acts of carelessness, but the early symptoms of mental disease.

Case II.—J. D., aged 42, married, was admitted in December, 1885, suffering from mania with delusions (general paralysis). We were informed that the symptoms were of twelve months' duration. This man was a small farmer, and at one time in very comfortable circumstances. Ten years previous to his admission into the asylum, he rode through the harvest field wearing "white kid gloves and patent leather boots," and said to his foreman, "I am going for a ride." For these acts he was laughed at, ridiculed—in short, considered a vain fool. They were the early symptoms of mental disease.

When you are consulted for a general state of mental uneasiness, it is usually to be observed that the patient is over-anxious, is worried and despondent, because he has convinced his own mind that business or other matters are not satisfactory. He is perfectly rational in conversation "in a way," yet his mind is not working normally. "Smalls" are "greats," and little blacks are large blacks. Should these abnormal currents of ideas be allowed to multiply and propagate, the next stage is soon reached, and he tells you that he is ruined; that his affairs are not correct or prospering, that he cannot settle to work, and so forth. And now, instead of simple mental perversion you have actual mental disease. At this stage a consultation might be suggested; but I wish you to think of the stage preceding these delusions, the period which unquestionably belongs to you, and during which wisely-directed treatment is of most avail.

Take, again, the case of the anxious mother, who, during the period of lactation, is too often unmindful of her own health, and falls into a state

of despondency. Unfortunately, this condition is very frequently neglected, partly because of its simplicity, and partly by not being considered in the light of mental disease. A few days more, and this case is one of open melancholia.

Under very different conditions you meet with cases of a similar nature where domestic troubles or pecuniary losses are the immediate cause of the mental symptoms. Here, again, there is the initial stage, often of long duration, and during which preventive measures are of the greatest value. Allow these cases to drift a little further until the borderland of insanity is reached, and their downward course is almost inevitable.

I have no doubt you will all recall numbers of such cases, and what I wish to impress upon you is the necessity and importance of employing early and preventive measures. Delay and neglect may mean disaster.

Then there is the case of the young girl, who, at the period of a great physiological crisis, experiences feelings and sensations at once beyond her comprehension and understanding, and which she allows to disturb her peace of mind until the current of her thoughts no longer represent the buoyancy of her girlhood.

As too often happens, mothers are unmindful of the critical stage of their child's life, and the general treatment is neither consoling nor refreshing. I know of no stage in woman's life when greater care or wiser counsels are needed. Neglect may mean early mental troubles, or it may mean a life of incessant misery, because of the early planting of neurotic seeds. I mention this class of cases because, from time to time, one sees so many young girls whose illness dates from the menstrual epoch, and where, I am confident, much more might be done to avert the development of mental disease; and, again, because there is an increasing tendency to the development of neurotic and mental symptoms at this anxious stage of life in the present or rising generation of young women.

You are frequently consulted respecting the schoolboy or schoolgirl who suffers from intolerable headache, who cannot sleep, who cries and frets because of his or her inability to accomplish home tasks or keep an equal place with others in the class. In short, the child is absolutely miserable, and the seeds of disease are being rooted, through the misguided rules or laws of primary education, and through the failure of teachers to allow for any difference in brain power or any defect in brain development.

I must allude to one other class where the earliest symptoms of mental disease are specially your property, and in which class I believe are many preventable deaths. It only needs mention to save description of the number of deaths where the coroner directs the jury to find a verdict of "suicide (or as the case may be) while of unsound mind." We have not to borrow examples from other countries, nor even from other counties, for there are numbers within our own small radius in the course of the year. Signs of warning and symptoms of danger are either unheeded or disbelieved, and nothing short of an actual attempt convinces the relative and others of the serious nature of the case.

The course of events in these cases illustrates forcibly the difference between the professional and lay methods of reasoning respecting the nature and importance of the earliest symptoms of mental disease. The profession recognise in these premonitory symptoms the precursors of disease, if not the actual symbols of disease; but the public pooh-pooh this, and only awaken to the truth when the laws of society are palpably disregarded, or when the community are startled by a daring and irresponsible attempt at self-destruction or murder. It is hard to know on whom to fix the blame in many of these sad terminations to previous useful lives, but of this I am quite certain, a great and grave duty is that of the family physician. He may with impunity refuse to sign lunacy certificates, but by no twist of the imagination can he escape from responsibility when dealing with the early symptoms of mental disease.

Treatment.—In considering the question of treatment, it may be laid down as a general principle that it is useless to ransack the *Pharmacopœia* or to combine reputed drugs in the hope of finding a panacea. You can at best correct system errors by therapeutics, but I know of no drug that will cure mental disease. It is not therapeusis but moral treatment that is required. One time it is healthy exercise, another recreation, another change of surroundings, another removal from all associations with relatives, another regulation of diet and hours—in short, let your prescription be moral and not therapeutical, and, at the risk of being abused and chastised, let the time-honoured battle of physic give place to preventive medicine. I may be told that you have no means of treating these symptoms other than by therapeutics; but this I cannot accept, and, as I have already said, drugs are, if not useless, of little value.

As our knowledge of the pathology of disease advances, our faith in curative measures grows less. There are a few grand examples, but do not the weight of evidence and the bent of scientific research favour the adoption of preventive, rather than curative, measures? Here are the trenchant words of Professor Clifford Allbutt: "But what need of further evidence to prove that while the advance of curative medicine is readily summed up in a few brilliant episodes, the advance of preventive medicine is along the whole line with a steady and uniform tide that knows no ebb?" Dr. Clouston says, "If the first signs that betoken

danger to the mind-health were observed, and the first symptoms of disease noticed, and their true significance apprehended, everyone knows that their further onset and progress could often be arrested." All the talk and writing about the treatment of mental disease in special hospitals by an array of departmental specialists is glittering, but unsound. It is not therapeutics or special hospitals that we require, but the aid of the general practitioner, and if he could be induced to be more of a specialist in his work generally, the benefit to scientific medicine would be immense.

The unique position of the family physician may be described as a sacred trust in regard to his patients and a solemn bond in regard to the social world. He is consulted on all matters, he is confided in, he is trusted, and his powers of influence exceed those of any other living being. I speak now generally, not caring to dwell on those instances when we are thwarted in good intentions and cruelly treated by ungrateful patients.

What above all else has delayed the recognition of insanity as a disease, and therefore the treatment of the earliest symptoms of mental disease has been public prejudice on the one side and a want of knowledge of the true significance and importance of first symptoms on the other. The one cause has been the means of fostering the shameful opinion that mental disease is a disgrace, and the other has been the instigator of classifying the early symptoms as eccentricities or foolish freaks of human nature.

I would not willingly, even in words, encroach or impose upon your sacred hours, but remembering your exceptional opportunities and your unlimited powers of influence, I am constrained to make an appeal for a better share of your working day in the cause of mental disease, and to express the hope that more attention will be paid and more consideration given to the study and treatment of the first signs of mental troubles.

I believe we are severally doing our part in the field of preventive medicine, and as regards the special department of psychology, the general practitioner would seem to stand forth as the public pillar and keystone towards the prevention of insanity.

These and similar exertions on his part will accomplish much in diffusing better and more humane ideas respecting the insane. The progress in this direction has been slow, still great advances have been made, and it is only for one reason that I allude to the subject.

Attempts are being made to rivet the public mind on the feebleness and lassitude of those entrusted with the care and treatment of the insane, and we have actually been asked to believe that with special hospitals the average rate of recovery could be increased by 10 per cent., to be followed by a corresponding decrease in the number of the insane. I can only say I do not accept these views, and I attach more importance to the efforts of the family physician in the prevention and reduction of insanity than to any supposed increase in the recovery rate by means of special hospitals and therapeutics.

I do not think that anyone engaged in the treatment of the insane would advise the removal of a patient to an institution if the case could be treated at home. The early symptoms can and should be treated by the family physician, but when open and pronounced there should be no delay in obtaining special treatment. Whether early or late you will fail if you rely on therapeutics.

Do not be discomforted because of the varied and varying character of the symptoms. Seldom will you find two cases alike in the initial stage. But the more closely you study the variations of normal mind, the more easily will you detect mental deviation. Guard against labelling the primary element of mental disease as eccentricities, or painting moral insanity as hysteria.

In no department within the whole range of medical science is there more need for the practice of specialism by the general practioner than in the treatment of the early symptoms of mental disease. We admire, respect, and follow the teaching or consulting room opinion of ripe experience, sound learning, and wide culture, but in every branch of the profession there is a great desire for more general specialism and a great cry against the increase of special specialism. The experience gained in the wards of any institution for the treatment of disease fosters and propagates individual and general confidence. It is one of the regrets of my life as an asylum physician that my brother practitioners so seldom evince a desire to gain knowledge in the special department of mental disease. I am confident that, if you were to visit our wards—and few there are amongst you who could do not do so several times in the course of twelve months—the gain would more than compensate you for the time and trouble.

Let it not be said that the fault is ours, for I am constantly asking individnal members of the profession to visit us, and I now bid one and all an open welcome at all reasonable hours. I can assure you it will be a real pleasure to us, and no effort will be spared to make your visits profitable and interesting. I cannot do more than refer to this important subject; but I could not allow the opportunity to pass without mentioning how desirous I am that the richly-stored wards of our asylum should be utilised for the benefit of and taken advantage by the profession generally.

What is possible elsewhere is not impossible within the area of this branch. We may lack in public distinction and repute, but not in earnestness and devotion to duty. There are as able and

distinguished pillars of the profession on the roll of country practitioners as on the staffs of our large hospitals.—R. W. McDonald, in *Br. Med. Jour.*

THE COLD-BATH TREATMENT OF TYPHOID FEVER.

While no one can bring a railing accusation against us as a profession for neglecting the things that pertain to the cure of disease by drugs, we must bear meekly the rebuke of those who claim that non-medicinal agents, such as systematic exercise, fresh air, and the use of water scarcely receive the attention which their virtues demand. Particularly is this the case with water as a means of controlling the severer symptoms of fever. For centuries it was one of the great hygienic measures, and the use of baths in disease is recommended by writers in every age since Hippocrates. You will find, indeed, in the writings of the Father of Medicine an admirable account of the indications and uses of the bath, to some of which I shall refer again.

During the first half of this century hydrotherapy was largely in the hands of the hydropaths, by which term may be distinguished the large class of hermaphrodite practitioners who look upon water as a cure-all; but under the guidance of von Ziemssen, Liebermeister, Winternitz, Brand, and others, the use of compresses, douches, and the various forms of baths has been introduced largely into rational practice. More than thirty years ago Brand, of Stettin, urged the systematic treatment of typhoid fever by cold baths. The method has been successfully carried out on a large scale in Germany and in France, but in England and in this country only spasmodic and not very successful efforts have been made to encourage its use, at least in hospital pratcice. The remarkable figures published by Brand in 1887 made me determine to adopt it at the earliest possible date, but when the wards were first opened the arrangements were not adapted, and our staff of nurses not large enough, to carry out the method thoroughly, so that for the first year we followed the ordinary symptomatic and expectant plan of treatment. But I am not myself personally responsible for its introduction. During my absence in Europe, in 1890, my former first assistant, Dr. Lafleur, now of Montreal, after a visit to the wards of Dr. J. C. Wilson at the German Hospital in Philadelphia, began the practice, and the hospital is under a lasting debt to him for the accuracy and care with which at the outset, and for more than a year subsequently, he supervised the details of the treatment.

Most of you have seen the application of the method in the wards, but I shall emphasize certain points in the procedure by having one of the patients bathed before you, so that you may see the minutiæ.

The ward orders are as follows: The temperature of typhoid fever patients is to be taken every two hours; when above 102.5°, a bath at 70° is to be given every third hour. The patient before you has reached the sixteenth day of the disease. He has been in hospital nine days, and has had thirty-six baths. The tub is wheeled to the side of the bed—a practice much preferable to that followed in some of the foreign hospitals of carrying the patient to the bath, or, indeed, allowing him, if he is able, to walk to it.

The technique of the procedure is as follows: The tub, as you see, is of light *papier-maché* material, and even when filled with water, as at present, is readily portable on wheels. The temperature of the water is 68°. Here in the amphitheatre we shall reverse the usual procedure, and have the patient wheeled to the side of the bath. The preparation is extremely simple. The heavier bedclothes are removed and a light sheet is thrown over the patient from the neck down. Under this his night-shirt is removed, and, if necessary, a light napkin is applied over the genitals. The patient is given a small quantity of whisky. Two orderlies will now lift him into the bath, still covered with the sheet. This patient happens to be a large, well-nourished man, and he fits very comfortably into the bath-tub, having, as you notice, an air-cushion supporting the head and neck. You will see in the ante-room one or two other forms of bath-tubs, one of which has a sloping platform for the support of the back. In more delicate, particularly in thin, emaciated, patients, the greatest care must be taken to support the nates and make the posture in the bath as comfortable as possible. A cloth wrung out of ice-water is placed upon the patient's head, and with a small sponge the head and face are kept bathed with the same water. You see here an unusually docile patient, who takes the baths without much protest, but, as you have just heard him say, he would prefer them warm. Systematic friction is now applied to the skin either with the hand or by means of a cloth or India-rubber rubber, which for convenience may be attached to a stick. The friction is rightly regarded as a very important element in the treatment, though, as you hear from this patient, he does not at all like it, and prefers to be left alone. Curiously enough, Hippocrates laid stress upon this very point when he said: "But the person who takes the bath should be orderly and reserved in his manner, should do nothing for himself, but others should pour the water upon him and rub him." The abdomen should not be rubbed. While the patient is in the bath, the bed is prepared for his reception with a rubber sheet, a blanket, and over these an old

linen sheet. (After remaining in the bath for twenty minutes the patient was lifted out.)

I am glad that you have witnessed the little *contretempts* in lifting this patient out of his bath. You see that he is a strongly built, heavy man, and the orderlies were only just able to lift him from the bath to the bed, and you saw that in doing so there was some little difficulty, owing to the catching of one arm on the side of the bath. This, however, does not very often happen, but now and then patients complain of scratches in the process of lifting in and out of the bath; and though done, as you see, with the greatest possible care, these little accidents are liable to happen. The man is now well wrapped up in the sheet, which is tucked in between the arms and legs, and brought well around the neck. Over this the blanket is placed. In cases in which the temperature is very high the patient may remain in the sheet for from five to ten minutes, but under other circumstances he may be carefully dried at once. You see that this man retains a good color in his face; the extremities are cold but not livid; and he is now beginning to shiver. Very often this shivering is distressing while in the bath, and one of the most unpleasant features of the system. If the patient is very cold and the shivering is extreme, hot bottles may be applied to the feet and at the sides. You see by this two-hourly temperature-chart the influence of the baths; and half an hour after the temperature will be taken again, and the record made. If, at the end of three hours, the temperature is again above 102.5°, he will have another bath such as you have just seen. Now, before the patient is wheeled out, he will be given two ounces of hot milk, with a little whisky.

Practically what you have seen in this case is the routine of our treatment. The patients receive no medicine other than the alcohol, and that we do not give as a matter of course, but as a rule only, before and after the bath. In other cases, when the heart becomes feeble, we give strychnine, and in some cases digitalis and ether. The effects of the baths are: first, to reduce the fever, principally by favoring heat-dissipation and by the direct action of the cold water upon the blood that circulates in the superficial vessels; secondly as a general tonic to the nervous and circulatory systems. Perhaps the most striking effect is seen in the lessening of the nervous irritability, the favoring of sleep, and the clearing of the mind. In patients treated early by this method we rarely see the dry tongue, muttering delirium, the subsultus, and the other grave nervous phenomena which are of such serious import in typhoid fever. The baths, too, appear to improve the general nutrition, and the patients take their food better, digest better, and, as has been said, the vital processes all seem more active. Do not suppose, however, that you can, as Brand enthusiastically says, keep the patient in an almost a febrile condition. An inspection of any series of carefully taken charts will convince you that this is an impossibility; the temperature rises again in a variable space of time, and in some instances the influences of the bath upon the rectal temperature is extremely slight.

An important question is, Shall we bathe all cases indifferently, whether the temperature reaches 102.5° or not, and whether grave or mild? When the temperature does not reach the point indicated, if the patient's condition is good and there are no nervous symptoms the baths are not ordered. This has been our practice during the past two years, and I do not know that we have in any case had cause to regret it. Of course, we do not here often see patients before the seventh day, but occasionally, as in the man in bed 3 in ward F, we do find cases in which the temperature is very low on admission, scarcely 100° or 101°, while subsequently the fever becomes very pronounced. Now, in the very case in question, the man has subsequently had a sharp attack of typhoid fever, but we did not bathe him when his temperature was low for the very good reason that we did not think he had the disease. On the other hand, in doubtful cases in which the fever is 103° we have no hesitation in ordering baths, and have frequently bathed patients who subsequently proved to have pneumonia or malaria.

The contra-indications are as follows: Hæmorrhage from the bowels, not because the cold baths tend to increase the hæmorrhage, but because they interfere with the essential element in treatment, namely, rest. You have seen within the past week in the patients in beds 20 and 24 that the baths were omitted on account of hæmorrhage. In the extreme debility of the last stages, in protracted cases with running pulse, it is advisable to omit the baths, though we do so with reluctance; but in many cases it has seemed wise, particularly in cases admitted in the third week, or admitted in relapse. Often in a day or two the condition is improved sufficiently to justify the use of the method. Neither pneumonia nor bronchitis is regarded as a special contra-indication, and pluerisy, only when the pain is severe. Of course, the baths must be omitted when there are signs of perforation.

We use the bath-treatment and advocate it because by it the mortality in typhoid fever has been reduced so remarkably in hospital work that its employment seems imperative for the saving of lives. You can for yourselves read and compare the statistics in the different hospitals which are given in two special works on this method now available for practitioners in this country—one, *The Hydriatic Treatment in Typhoid Fever*, by Dr. Shiler, of Cleveland, formerly a Fellow of the Johns

Hopkins University; the other on the *Use of Water in Modern Medicine*, by Dr. Simon Baruch, of New York. These little books should be widely read by the profession. They are timely contributions to a subject that has not yet reached the daily lives of the doctors in this country. Practically, the mortality under the cold-bath treatment in hospitals has been reduced from 15 and 20 or 25 per cent., to an average of 6 or 7 per cent., taking all cases, or even very much lower, if the cases are seen early. Indeed, Brand has figures that show an absence of mortality in some 1200 cases in which the treatment began before the fifth day But in hospital practice we can never expect to see our patients before the end of the first week. At the German Hospital in Philadelphia, where the method has been followed most accurately by Dr. J. C. Wilson and his colleagues, there were ninety-four consecutive cases treated without a death; but I understand from Dr. Wilson that this remarkable good fortune has not continued, though the mortality has been kept at a very low rate. Our own more limited experience is also strikingly in favor of the method, and a report is in course of publication dealing with the first hundred cases so treated. In the first year of the opening of the hospital there were thirty-two cases treated on the symptomatic and expectant plan, of which eight died, a mortality of 25 per cent., a rate unusually high even for a general hospital. The cases, however, were of unusual severity; one had acute hæmorrhagic nephritis, withprofuse hæmaturia; one case, admitted at the beginning of the third week, had extensive double pneumonia. Two cases died of perforation, while another case died of profuse hæmorrhage from the bowels. On the other hand, in the first hundred cases treated by the cold baths, the mortality has been only seven per cent. a reduction so striking and remarkable that it must be attributed to the good results of the bath. Even this rate of mortality which is about the average for hospitals in which the rigid Brand system is carried out, would be considered by the proposer of the method far too high. In the report referred to I have given full details of the fatal cases, and will it be noticed that one of the eight, an old man of seventy, was admitted late in the disease with extensive lobar pneumonia, and as the disease was not recognised as typhoid he was not bathed. Two cases were admitted in relapse.

You will be pleased to learn that in cases treated this year we are still gratified with the results of the method. We are at about the seventieth case in our second series of a hundred cases and only six of these have died.

Lastly, a special interest to you as practitioners, comes the question, How far is this method available in private practice? I have been rapped over the knuckles, so to speak, for saying that in private practice it was scarcely feasible, but I suppose it is more correct to say that in this, as in other matters, where there is a will there is a way, and if the practitioner insists and has the courage of his convictions, the method can in many cases be carried out at home. It is very interesting at this point to know Dr. Sihler's experience in private practice, and I would recommend the careful perusal, by practitioners, of Appendix A of his little manual. Really the chief obstacle to-day is that of which Hippocrates complains, when, in speaking of the bath, he says: "Sometimes it must be less used than it would be otherwise, from the want of accommodation; for in few families are all the conveniences prepared, and persons who can manage the baths as they ought to." Portable tubs, however, are now available, and with a good nurse, intelligently assisted by one or two members of the patient's family the practice can be successfully carried out. There is now, moreover, a much stronger feeling in the profession in favor of hydrotherapy, and the practioner can at least get the moral support of his colleagues. Still there are difficulties, which can, however, be overcome with care, patience, and a little tact. My preceptor, Dr. R. P. Howard, in Montreal, used to tell a story which rather set the younger ones among us against the Brand method. Early in the "sixties," shortly after the publication of Brand's paper, Dr. Howard, in his lectures on typhoid fever, had given the full details, and had spoken of the remarkable results obtained by Brand. One of his pupils, a year or so later, practising in a small town in Western Canada, had faith enough in his teacher and in Brand, to use the cold bath in a very severe case of typhoid fever, which occurred in one of the prominent families of the town. The poor patient promptly died after the bath, and the young physician felt so chagrined, and the feeling against him was so strong, that he left the town, Such an accident, however, is a very remote contingency, and one that need scarcely be taken into account in discussing the advantages and disadvantages of the cold-bath treatment in typhoid fever.

Do not, however, underestimate the troubles that you will encounter in introducing this method into family practice. I have here a letter from one of my old University Hospital house-physicians, an extremely careful and able practitioner, who has been using the cold bath very faithfully, and in speaking of one case he says; "The prayers, entreaties, supplications, and last but not least effective, the lusty yells of this girl at each bath were not such as to materially increase the repose of the neighborhood, or strengthen to any great extent the *morale* of the family."

We have been congratulating ourselves during

the past two or three months that our numerous cases have been doing so satisfactorily, but yesterday one of the inevitable accidents occurred, which, in general hospitals at any rate, must continue, in spite of Brand's statements, to occur occasionally and maintain some mortality, at any rate, in typhoid fever. The patient, admitted about the seventh day of his illness, was a strong, well-built healthy man, aged thirty-seven. He was bathed from the time of his entry, and had had about forty baths. The day before yesterday the pulse was feeble and rapid after the bath, and it was thought advisable to order the baths to be discontinued. There was a little tenderness in the abdomen, but nothing very striking Yesterday, as some of you saw, the signs of perforation were well marked, and of this he died I show you here the small intestine, and you will see a somewhat unusual and remarkable picture. There is a small slough near the ileo-cecal valve, and there are two or three small ulcers in the first half above the valve. There are also one or two swollen solitary follicles, but there are also several patches which show simply the shaven-beard appearance, and the lymph-elements are not themselves specially swollen. At a distance of 30 cm. from the valve there is a small perforation, resulting from the extension of a small, deep slough through both muscular coats. Higher up there are one or two small ulcers, not larger than peas, and above this there are Peyer's patches uninvolved, with scarcely any infiltration. The spleen is very much enlarged and soft. Here was a patient, without extremely high temperature, bathed from about the seventh day, with every favorable indication, and, as the autopsy showed, extremely slight ulceration in the ileum, and yet, owing, no doubt, to local conditions in the limited area involved, the necrosis had extended deeply, and passing through both muscular coats, the inevitable perforation occurred, with fatal peritonitis.—Wm. Osler, M.D., in *Med. News.*

ALBUMINURIA IN PREGNANCY.

Among the diseases of pregnancy, albuminuria is one of the most important, and it is on this account that I am directing your attention to it this evening. It is only within the last fifty years that it has been recognized. It was first alluded to in France by Rayer, and soon afterwards in this country by Dr. Lever in the seventh volume of the "Guy's Hospital Reports." Since then various papers have appeared on the subject from time to time, but import of the symptom still remains somewhat uncertain. This, no doubt, is due to the varieties of the disease. From the observations of Monsieur Blot, many years ago, it appeared that at least twenty per cent. of all pregnant women had albumen in the urine in varying qualitities, and it was estimated that albumen was to be found, one in seven before, one in four and a half during, and one in four shortly after labor. These observations, however, have never been confirmed in this country, and the amount of albumen sometimes present, and persistence or not after delivery, has not been stated.

The reason that albuminuria has always been regarded in pregnant women with alarm has been on account of the coincidence in many cases with the occurrence of the eclampsia; but there are other—and quite as great—dangers which occur in its presence, viz., retinitis, causing almost blindness—the "amaurosis" of old authors, and the persistence of the symptom itself, ultimately causing the death of the patient from Bright's disease. Hence we shall find that our treatment to be successful must, in the main, be preventive. It is well to remember in the outset that albuminuria is far more frequent in primiparous than multiparous women, though even in the pregnant state the urine of a healthy woman contains no albumen, hence it may clearly be said to indicate a pathological condition of which it is the symptom. Also that in both, the greater the age the less the liability; and it also may be taken as a general fact that the amount of urea found in the urine is diminished in all cases.

Now with regard to the causes, the following have been assigned: pressure on the renal veins, or on the ureters; increased arterial tension in connection with hypertrophy of the heart; reflex irritation conveyed from the uterus to the kidney; increased work thrown upon the kidney during pregnancy, this acting on a kidney originally weak, and possibly having undergone some degeneration; then the occurrence of Bright's disease before or coincident with the pregnancy, or the re-development of old scarlatinal dropsy. Among the French authors, super-albuminosis is assigned as a cause.

Now, first with regard to pressure—although this may be an active cause sometimes in the latter part of pregnancy, and especially when œdema is found of the lower extremities, it can scarcely be considered an active cause in those cases where the albuminuria is a comparatively early symptom, especially those cases where it comes on before the fourth month. With regard to increased arterial tension, this undoubtedly, in the presence of a watery condition of blood, favors the occurrence of albuminuria; and when we come to consider the state of the blood in pregnancy, no doubt this has an important bearing.

Let me remind you roughly that the blood during pregnancy has less albumen and more water, and it is on this account that the French observers lay stress upon the condition of super-albuminosis being a cause of albuminuria. They contend that although the amount of albumen in

the blood in pregnancy is lowered, still proportionately the water is increased, and that in the presence of this arterial tension there is a tendency in many cases for exudation of the albumen to take place: and the experiment of Bernard of the injection of albumen or serum into a vein producing albuminuria, and also the known fact that an excessive diet of albuminous material has also given rise to albuminuria, have a distinct bearing on this. It has also been thought that a large amount of albumen being required for the nutrition of the fœtus, and this not being used up, especially in cases when the fœtus is found small and shrivelled, that the excess of albumen not used exudes through the vessels and passes into the urine. There is no doubt—and Tyler Smith laid stress upon this—that the reflex condition, in the same way as other reflex symptoms such as induce the vomiting of pregnancy, has to do in some cases with the occurrence of albuminuria. It has been stated, and I believe correctly, that it is rare to find blood in the urine in the albuminuria of pregnancy, whereas in the acute desquamatory nephritis it is fairly common.

With regard to the coincidence of Bright's disease, this is often difficult to ascertain, as we are by no means certain when the albuminuria commenced. My own impression is that in many cases which I have seen, the cause seems to be some latent condition of the kidney, which is brought out by the presence of pregnancy, and this certainly accounts for those cases where albuminuria comes out in successive pregnancies and disappears on the termination of the pregnancy. Other symptoms that are noted in albuminuria are œdema, headache, deafness, blindness, paralysis, dizziness, vomiting, and pain in the lumbar region. Of these it is not necessary that I should lay stress upon the occurrence of œdema; this is not often overlooked in the latter part of pregnancy. At this period œdema is observed, and among the older authors was often associated with the occurrence of convulsions. But it is to the occurrence of *early œdema* that I wish to draw your special notice. This is often observed in connection with the eyelids, but œdema to a considerable extent, of the vulva often takes place, and is either not noticed by the patient or she lays no stress upon it. In two cases this has been a very well-marked point; in both of them the patient was apparently well, and complained of nothing; in one as early as six weeks the œdema of the vulva was so great that it was necessary to relieve it by puncture, and in this case albuminuria had occurred in the two previous pregnancies, in both of which abortion took place between the third and fourth month. In the other case, a primiparous woman complained of nothing, and apparently being in perfect health, was seized at about the fourth month, with violent convulsions, deafness, and blindness, lasting for over thirty-six hours, the urine being nearly solid with albumen. After this period the symptoms slowly passed off. When the patient recovered consciousness she stated that she had considerable swelling of the private parts, but that she had not mentioned it because she thought this was one of the ordinary occurrences of pregnancy. Hence it is important in all doubtful cases to question the patient closely on the subject of œdema.

Again, in a primiparous woman the occurrences of persistent headache with giddiness should arouse our suspicions, and cause us to examine the urine, and this especially as time goes on, when dimness of sight, amounting almost to complete blindness, is apt to take place. Another very unfortunate symptom is the occurrence of late sickness. This, in the presence of albuminuria, is often attended by fatal results. It should be remembered how the retinitis is met with more often in the albuminuria of pregnancy than in that of the non-pregnant state.

With regard to the course of the disease, in the slighter cases, the albumen may remain small in quantity, or may disappear, or, on the other hand, increasing, may lead to the dangers to which we have alluded. But the course of the disease depends very much upon the varieties, and we may say of these that the symptom may be transient and slight, or large and increasing in quantity, and the albumen increasing coincident with the diminishing urea, is always a serious condition. Then, as to the occurrence of the œdema with the albuminuria, this again helps us with regard to our interference or not.

With regard to prognosis, this has to be considered as to the present pregnancy—as to future pregnancies and as to a continuance of the disease or not after pregnancy has concluded. First, as to the present pregnancy: our prognosis here depends much upon the quantity of albumen and its increase or decrease under treatment, though in cases where casts are found the symptom passes off after emptying of the uterus, still their presence renders our prognosis more serious than when they are absent. It is well to remember also that the appearance of albumen in the early months of pregnancy is more serious than when it appears only in the latter months; but, on the whole, and bearing in mind what we have to say in regard to treatment, our prognosis as to present pregnancy may be said to be favorable. As to future pregnancies, there is no doubt that there is a great tendency for the symptom to recur, and believing as we do, that the pregnant state is often the condition which brings out the latent kidney trouble, a very guarded prognosis must be given and the patient carefully watched, the urine being examined at intervals during subsequent pregnancies. As to continuance of the disease we may in many cases predict the absolute recovery of the patient, but it is well to wait from three to six months before a

final opinion is given; it sometimes happens that the albumen disappears entirely at first, and after a time returns again, and continues for a variable period.

With regard to the treatment. The treatment of albuminuria is much the same in pregnancy as at other times, that is to say, as far as diet or medicine is concerned; to promote the action of the skin, increase diuresis, and promote extra activity of the bowels are well-defined rules of treatment. At the same time, the diet should consist largely of milk, and the avoidance of all albuminous food, and this as far as can be maintained, keeping in mind the patient's general condition, is at first the main treatment. The patient improving, we may then administer some form of iron, and watching her carefully, allow the case to go on if possible until the child is viable; but no matter at what period of the pregnancy, if the symptom increases, or if the general condition of the patient does not distinctively improve, then, bearing in mind that in many cases the albumen disappears soon after the termination of the pregnancy, the question of its premature conclusion must be seriously entertained. Hence the preventive treatment to avoid danger to the patient is the provocation of premature labor or even abortion, and this in most cases at once relieves the urgent symptoms; the albumen disappears, the sight is restored, and the patient is brought from a state of danger to one of safety.

The treatment may then be said to be, to attack the symptom by appropriate measures, to keep the patient at rest, and watch her closely, and be prepared to act if the albumen increases, or the general condition of the patient is not an improving one. And to carry out this plan regardless of the time at which the pregnancy has arrived if the state of the patient justifies in doing so. Of course in the cases seen later at the stage when retinitis or other serious symptom is present, the bringing on of premature labor or even abortion becomes an immediate and urgent necessity.

With regard to the after-treatment, this of course depends upon the persistence or not of the albuminuria. In the cases in which the disease is involved with that of chronic Bright's disease, the condition remains, and has to be treated as an ordinary case of nephrits.

In all cases the risk of pregnancy should, as far as possible, be avoided for at least one or two years. As it is especially when the pregnancies follow each other in rapid succession that the recurrence of the albuminuria is likely to happen.

In conclusion the points that I would desire especially to impress upon you are the diagnosis of the condition as early as possible. And for this the more frequent examination of the urine, especially in primiparous women, for the detection of albumen is to be advised. Next, close questioning these women as to the occurrence of early œdema, and, finally, if the albumen be discovered, the patient to be carefully watched and treated; and unless the amount of albumen *decreases*, or remains stationary, the patient's general condition otherwise being good, then the case must be looked upon with anxiety, and the question of emptying the uterus carefully discussed and carried out. The termination of the pregnancy begin the on y real safety to the patient.—J. B. Potter, M.D., F. R. C. P. in *Clin. Jour.*

A CLINICAL DESCRIPTION OF DYSENTERY AS IT OCCURS IN NICARAGUA.

Three varieties of dysentery are met with in Nicaragua, namely, the malarial, the endemic, and the epidemic, and of these the malarial is by far the most common. The prodromal symptoms of malarial dysentery are malaise, pain in the back, in the head, and in the umbilical region extending toward the pubes. In association with the diarrhœa these pains are highly characteristic of this form of dysentery. Mild cases are marked by very slight febrile and circulatory disturbances; whereas in the more severe cases we have a moderate elevation of temperature, varying between 102° and 104° F. The stools are at first composed almost entirely of pure mucus, are small in quantity, and are frequently attended by tenesmus; soon the mucus is streaked with blood. The pains are not usual y severe during the act of defecation, but the pain in the head and back is excruciating. Liver complications are not infrequent, particularly acute hepatitis or acute hepatic engorgement, each of which is frequently associated with jaundice. Hepatic abscess is a rare complication and is usually secondary to the ulceration of the colon. At times the spleen becomes greatly engorged.

Changes in the urine, indicative of kidney disease, probably exist, but chemical and microscopical examinations are rarely made from lack of proper instruments and reagents. Many of these cases of malarial dysentery are followed by intense anæmia and debility, lasting for several months.

When cases are seen early and promptly treated the prognosis is almost uniformly favorable, but when seen late they usually die. As post-mortem examinations are never permitted, no information exists regarding the morbid anatomy or pathology of this interesting disease. The amœba coli, if searched for, would be found in many of these cases.

The treatment found most successful by Dr. Bermudez, of Managua, Nicaragua, is as follows: To an adult is given six grains of quinine morning and evening, in conjunction with—

℞.—Ammonii chloridi, ... gr. v.
Pulv. ipecac, ... gr. v.
M.—Tr. opii., ... gtt. x-xv
Sig.: To be repeated every two hours.

The amount of laudanum is determined by the severity of the pain. When the pain is particularly severe and obstinate, morphine is superadded, and, in cases marked by debility, it is customary to substitute the carbonate for the chloride of ammonium in five-grain doses, every two hours, day and night.

In the way of food nothing is permitted except milk or milk and lime-water, to which sago may be added. The patient is allowed to drink freely of cool water, thus alleviating the intense thirst which is usually present. Ice-water is considered harmful.

The *second* variety, known as endemic dysentery, resembles the preceeding, but is very much milder, and is usually unattended by the fever or the severe pains in the head, back and extremities, or abdomen that characterize the malarial form. The stools are composed of feces mixed with mucus and blood; are less frequent, and the tormina and tenesmus are less severe.

The average duration of malarial dysentery is three weeks, but occasionally it has been known to last two months, while very mild cases run their course in two weeks.

The treatment for this variety is the same as for the malarial, with the exception that the quinine is omitted. Almost all cases recover, and complications or sequelæ are uncommon.

The *third* variety recognized is called epidemic dysentery, which, as a rule, comes on suddenly, with pains in the head, back, throat, and extremities, accompanied with severe abdominal pains, shooting in character and centering at or about the umbilicus. Headache is particularly complained of; and not infrequently nausea and the vomiting of bile are associated. From the first the discharges are bloody, frequent, and there is intense pain and tenesmus. There may be as many as one hundred and fifty evacuations in the twenty-four hours, and an ordinary case may average twenty-four in the twenty-four hours, or one hourly, day and night. The temperature is high, ranging from 104° to 106° F., with a morning remission of two degrees, at which time there may be moderate perspiration. Severe cases die in less than seven days, and favorable cases may recover in from two to three weeks.

The discharges from the intestines continue bloody throughout the disease, but change in color becoming dark and sometimes black from decomposed blood-pigment, and frequently they are viscid and tenacious from admixture with mucus.

At times the patient becomes delirious, and occasionally coma supervenes. Children often develop twitching of the muscles, rolling of the eyes, and there is a tendency to bury the head in the pillow.

The complications usually noted are hepatitis, jaundice and abscess of the liver. Usually so soon as hepatic complications occur the patient dies; in other cases epidemic dysentery is complicated by croupous pneumonia with rusty sputum, and it usually affects the base of the right lung. Now and then severe internal hæmorrhages occur, and such an accident explains the cause of sudden death which has been occasionally observed. In this form of dysentery the anæmia and debility are more marked than in the malarial form, and is more persistent. Not infrequently the patient suffers from obstinate constipation, due to stricture resulting from the healing of large and deep ulcers in the colon.

These cases are best treated by the administration of from ten to twenty grains of quinine given three times daily, and in addition chloride of ammonium, five grains; pulverized ipecac, five grains; and tincture of opium, ten to fifteen drops, repeated every two hours. Frequently, however, there is so much gastric irritability that these remedies are not retained, and in such cases the quinine is continued, but the chloride of ammonium and ipecac mixture is omitted, and fifteen grains of bismuth or five grains of tannic acid repeated every two hours, is substituted. When opium is indicated it is invariably administered in the form of the tincture, in doses of five to fifteen drops, repeated every two or three hours, according to the severity of the case. At times nitrate of silver, in doses of one-sixth or one-eighth of a grain in pill form, is given every three hours. If the astringents mentioned prove of no avail, recourse is had to the acetate of lead, in doses of two or three grains every three hours. Most cases require stimulants, and experience has shown that alcohol in the form of brandy or whisky is *inadvisable*, and that the best results are secured from the use of sherry, port or any of the red or white wines, associated with the carbonate of ammonium, in ten-grain doses, repeated every three hours.

The food is restricted to milk and lime-water, sago and farina. Not infrequently Dr. Bermudez has seen as many as one hundred cases in two months with a mortality of but two per cent., and his father would probably see as many as two hundred cases in the same length of time.

Dysentery is one of the most common diseases of Nicaragua, and typical examples of the disease may be seen any day in the year. Most cases of malarial dysentery are observed during December, January and February, while the epidemic variety occurs more frequently during the months of March, April and May. Of course, endemic dysentery is always present, and, as would naturally be expected, is equally prevalent at all seasons. The

malarial form prevails chiefly in low, marshy districts, during the hot months. It is well to remember that the dry season, which corresponds to our summer, begins in November and ends in April, the remaining months constituting the Nicaraguan winter, or wet season. The average maximum temperature in the dry season is from 95 to 98 degrees. There is a difference of at least ten degrees between the temperature of the day and that of the evening.

The contagiousness of epidemic dysentery is fully recognized, and all ordinary precautions are taken to prevent the spread of the disease. Isolation, the free use of carbolic acid, the burial of all discharges, especially fecal and urinary; the burning of the linen soiled by the discharges; and in cases where the patient is too poor to submit to the destruction of clothing by burning they are disinfected by boiling water.

In all of these cases no researches have been made regarding the presence of the amœba coli.

Nicaragua has excited much interest of late, particularly in view of the probability that in the near future the Nicaraguan canal will become a reality, which will bring it into intimate relations with the entire world. I have, therefore, ventured to record these observations regarding a disease which prevails constantly, and at times becomes contagious.

My thanks are due to my friend and student, Dr. Salvador Bermudez, and to his father, who has practiced in Nicaragua for more than thirty-five years, for the description of dysentery as it appears in Nicaragua, and for the treatment which has given them the best results. The enormous experience of the physicians of Nicaragua has heretofore never been made known to the medical profession, in so much as they have no medical magazine to which they could report their observations; and, moreover, at no time has it been their custom to carefully note the cases under their care, so that this report is of particular value, and is, perhaps, the first of the kind published in the English language. It is especially worthy of note that the greatest confidence is placed in the use of the chloride of ammonium, and this is their uniform practice. I would, therefore, suggest that it be employed in the United States, especially in the Southern States, where the climate more nearly resembles that of Nicaragura.—Judson Daland, M.D., in *St. Louis Med. and Surg. Jour.*

PNEUMONIA TREATED BY ICE-COLD APPLICATIONS.

The poet who sings of the beauties of spring seeks his inspiration while the earth is still in the lap of winter. So, the practitioner of the healing art, in order to be prepared for the prevailing ailments of the colder seasons, must do a little thinking about it during the warmer months, and perhaps draw somewhat upon the last winter's experience of himself and others.

The fact that so many and various treatments are advised for pneumonia shows either that a really feasible and successful treatment is not generally recognized, or that, as Dr. Osler tells us, the disease is practically uninfluenced for good by any treatment whatever, beyond general principles

Upon the clear recognition of the morbid processes at work in the system, causing pneumonia and its series of phenomena, must rest the formulation of a rational and successful line of treatment for this disease.

The war which has raged about the treatment of this prevalent and often very fatal complaint has seen the banners of venesection, antimony, squills, opium, ammonia, alcohol, heat and cold, expectancy and heroism, with many others of lesser following, scour the field in serried array, with many ups and downs, in the fight for favor at the hands of the profession. And, latterly, the coal-tar derivatives, with their specious promises of cooling the fevered brow, have won for the time a position, in which strategy has had more effect than solid fighting capacity.

That pneumonia *is a specific fever*, in which the lesion of the pulmonary tissue is but an incident, is not, I believe, sufficiently recognized. Upon this one fact rests, I am firmly convinced, the rational and successful treatment of this, which is pre-eminently *the* disease of our colder months.

In all cases the general febrile condition is initiated and in full progress in advance of the lung lesion. The prompt recognition of the morbid process at work renders possible the aborting of the pulmonary sequence. I have seen and recognized the pneumonic fever in progress a full week before the characteristic signs appeared in the lung, and I have no doubt most readers have had a similar experience. The pulmonic fever itself would rarely promote a fatal result; and I feel safe in saying that, just so far as the invasion of the lung-substance (and the consequent interference with the action of a vital organ) is prevented, by so much will a fatal event in this disease be averted.

Another fact is to be borne in mind in the treatment of this and other febrile diseases, viz., that in fever there is lessened elimination of heat, as well as increased production of it. And also that, in increased temperature of the human body, the morbific germs become more active in their growth and multiplication the higher the point indicated by the mercury. I think the inference is obvious.

Influenced by the foregoing considerations, I decided last winter to adopt the use of cold applications in the treatment of pneumonia. This decision was strengthened by confirmatory evi-

dence, which I observed in the current medical literature.

During the past winter I treated about twenty-five cases of pneumonia upon practically this one line of procedure. The results were excellent in every way. The recoveries were prompt and rapid in all the cases but two. Of these, one was very prolonged, being secondary to la grippe and complicated with fibrinous pleurisy, and the other died. The latter was a hospital case—a poor, miserable woman, who had led a wretched life. There was albuminuria, due—as *post-mortem* examination revealed—to cystic degeneration of the kidneys, and also concurrent peritonitis. So I do not think that any treatment whatever would have altered the result. I do not propose to go into statistics, for my cases are too few. But the beneficial effects of the treatment were so prompt and so apparent, *in the face of the greatest prejudice and opposition*, that they carried conviction to the most unbelieving. I have seen the application of ice-cold compresses terminate a case of double pneumonia of the base by crisis in sixty hours. This case was characterized by severe dyspnœa, pain, and a temperature of over 105° F., with total absence of breath-sounds at the bases when first seen.

Another patient, a woman of 74 years, with consolidation of right base, recovered in four days.

A baby, 2 years of age, with catarrhal pneumonia, most marked on the left side, was quite convalescent on the third day.

A laborer, 34 years of age, with consolidation of right base, delirious, and much oppressed for breath, required but two days' attendance.

A bride, 22 years of age, who had been undergoing the usual round of festivities, awoke, after a particularly fatiguing party, in a feverish and lethargic state. Called immediately, I stated the probability of pneumonia ensuing. After twenty-four hours there was the characteristic fine crepitation and stitchy feeling to the breathing; temperature, 105½° F.; pulse, 130. Ice-cold compresses aborted the lung lesion entirely, and produced a critical perspiration in thirty hours, at which time the norm was reached and persisted.

There is no need to enlarge these details. The cases are all down in my case-book, and they all bear the record that from the time the cold was applied, rapid improvement ensued.

The method was as follows: A large towel was wrung out of ice-water, and the thorax enveloped in it. A comparatively dry towel was laid over it, and a binder of flannel or cotton held all snug. The ice-water towel was changed as often as necessary, in order to ease the pain and reduce the temperature. When the pain or dyspnœa was severe, or the temperature high, the intervals would be short, say five or ten minutes. As the symptoms improved, the changes were made only as the towels assumed the heat of the body. The face and limbs were frequently sponged with the ice-water, and when required a cold compress was put upon the brow.

The medication was confined to promoting a critical perspiration. This was effected by large doses of liquor ammonii acetatis and spiritus etheris nitrosi, well diluted, every hour. In one or two cases this had to be supplemented with pilocarpine muriate. No alcohol was required, except in the fatal case referred to. Antipyretics of the coal-tar series were not used, except in the one case just mentioned. The diet was principally of milk, and liberal in quantity. Incidental symptoms were met as they arose. In none of the cases was there any expectoration to mention. In some none at all, in others but a little. Free prespiration was usually succeeded by copious diuresis. As a precautionary measure, a wet compress was worn for twenty-four hours after the crisis, and changed when it became dry.

In order to obtain the effects to be desired in this treatment, the cold must be freely applied and with a firm hand, until the effect of a reduction of temperature and arrest of symptoms occurs.

The treatment is grateful to the patient. It can be managed without incommoding the sufferer, by the exercise of a little ingenuity. It is prompt in its effects for good, and it is easily applied.

In exceedingly plethoric cases I could conceive of the value of venesection at the outset, and, in fact, have so used it with excellent effect, but not in the series under consideration.

As the experience of twenty years' continued observation, I would most earnestly deprecate the use of opium, antimony, or blisters in the treatment of pneumonia; and my experience of the more modern antipyretics is hardly more favorable

Under the usual routine treatment of poultices, expectorants, and whisky, I can quite understand Dr. Osler's view as to the non-efficiency of treatment. But with the experience of the free use of cold, in the manner herein outlined, and in view of the etiological considerations advanced, I feel that a new and happier era is dawning in the treatment of pneumonia.—F. W. Jackson, M.D., Brockville, Ont., in *Therapeutic Gazette.*

EVOLUTION AND CLITORIS—Dr. Robert T. Morris, of New York, had a paper entitled "Is Evolution trying to do away with the Clitoris?" and presented photomicrographs and sections of anatomical specimens in support of his proposition. The summary of his paper, which is to appear in full in the *American Journal of Obstetrics*, was as follows:

1. The prepuce and the glans clitoris are bound

together by adhesion, partly or completely, in about eighty per cent. of all white American women.

2. Such preputial adhesions are rare among negresses, and apparently occur only in a few individuals possessing a large admixture of white blood.

3. Highly developed domesticated animals do not present examples of this degeneration, judging from a fair collection of data bearing upon the subject.

4. When preputial adhesions are extensive the glans clitoris and the imprisoned mucous glands remain undeveloped, but they may develop later when the physican has separated adhesion.

5. The failure of the embryonic genital eminence to properly develope the prepuce and glans clitoris for perfect cleavage probably means that nature is trying to abolish the clitoris, as civilization advances.

6. The degenerative process represented by preputial adhesions is characteristic of the civilized type of *homo sapiens* in which we find decaying teeth, early falling hair and imperfect corneas and eye muscles.

7. Preputial adhensions which involve small portions of the glans clitoris are of interest simply as anatromical curiosities.

8. Preputial adhesions involving a large part or whole of the glans clitoris cause profound disturbance, and are among the most pronounced of peripheral irritators. They cause desire for masturbation which leads to neurasthenia and they are responsible for grave reflex neurouses.

9 Preputial adhesions probably form the most common single factor of invalidism in women The clitoris is an electric button which pressed by adhesion rings up the whole nervous system.

10 The physician who neglects to examine the female child for preputial adhesions neglects the most important single duty of his professional life.—*Med. Mirror.*

A New View of Leucocythemia. — Robert Muir, "Observations on Leucocythemia," in the *Journal of Pathology and Bacteriology*, interestingly describes a careful study of the disease. In describing his technique a new method of "fixing" cover-glass preparations is given, in which the spread film is dropped into a saturated solution of bichloride of mercury before drying. After fixing in this way, it is stained and handled like a section of tissue. Another method employed was to drop blood into strong Flemming's solution, which both hardens and fixes the cells at once. Afterward, the drops are imbedded and cut in paraffine. For staining, saffranin and Ehrlich's hematoxylon were found best. His work is not yet complete, but the conclusions thus far reached are interesting.

"I believe that the changes found in leucocythemia cannot be explained on any other theory than that of an excessive and indefinite proliferation of a certain kind of cell, in its nature resembling that seen in the growth of many tumors. Practically all recent observers are agreed that the spleen of an adult mammal does not perform the functions of transforming white corpuscles into red, and also, in fact, that leucocytes found in normal blood do not become red corpuscles. Nor do I believe from the results of numerous observations that those cells of bone marrow, which are similar in structure to the large uninucleated corpuscles of leucocythemic blood, produce the nucleated antecedents of the red blood corpuscles. Regarding this, however, there is greater difference of opinion, and one cannot satisfactorily discuss the question without giving a minute account of the characters of the various cells found in the marrow and their relationships to one another. Even on the supposition that these marrow cells do form nucleated red corpuscles, the essence of the disease would rather be an excessive proliferation of the former, the failure to become transformed being a result of the rapid division. The theory of Löwit that the cause of the disease is a failure of the uni-nucleated leucocytes to become multi-nucleated, with a consequent accumulation in the blood, is open to still greater objections. The presence of mitotic figures in the blood, the characters of the cells present, and especially in some cases of the great actual increase of the multi-nucleated forms, are quite unexplained by such a theory."—*Univ. Med. Mag.*

The Chorea of Pregnancy.—In an article upon this subject *(International Medical Magazine)*, Dr. Lloyd, of Philadelphia, gives the prognosis as follows: Very practical questions are involved in the prognosis, both to the mother and the child. Some years ago an English obstetrician, Barnes, wrote a paper on all the cases of the chorea of pregnancy that he could find in medical literature. His statistics seem to prove that about seventeen out of fifty-six are fatal. I think that this is an over-estimate, for this reason: It has happened in the past that only the fatal or the severe cases have been reported. I have seen five cases of the chorea of pregnancy, none of which have been fatal. Milder cases are not apt to get into print. I think that, while the chorea of pregnancy is a grave disease, it is not as grave as Barnes' statistics seem to prove. Another question comes up—the prognosis in the case of the child. Statistics have also proved that some of these women go into premature labor, and that some of these children are still-born or die shortly after birth, probably because of the premature labor or because of the mother's reduced condition. A very practical question which you will have to face is,

whether or not you shall bring on premature labor or even abortion. Many of these cases of chorea in pregnancy certainly recover after labor, but a small proportion do not, and on that account it is difficult to advise when premature labor should be induced. When the woman's life and the babe's life are in jeopardy it is justifiable, even imperative, to act. I think that after seven months in some cases, the chances for the babe's life may be better if taken from the mother. Recollect, however, that women do not all recover after confinement, and that the child does not always live.—*Med. and Surg. Rep.*

HOW TO GO TO BED.—We have still something to learn in the matter of nursing, according to Dr. Richardson, who tells us in *The Asclepiad* that in hospital, as in private practice, great errors are made in the choice of bedclothing for the sick, and particularly for the sick who are suffering from febrile affections. We have got rid of the heavy curtains around the bed; of the grand accumulator of dust and other uncleanness, the tester; of the heavy valance, which converted the under part of the bed into a close cupboard, in which all kinds of unwholesome and cumbrous articles lay concealed, including sometimes excreted matter itself; and we have banished the carpet, which often, as a hard-trodden, dust-laden rag, made the floor beneath the bed persistently impure. This is all good; but the old feather beds, flock-mattresses, heavy blankets, thick, impermeable, and dense counterpanes still encumber many a patient, rendering ventilation of his body as impossible as in the days of our forefathers. The art of going to bed is one which has been studied (and practiced) for untold centuries. We have not advanced much on the practice of our forefathers in the West. According to Dr. Ernest Hart, and now according to Mr. Richardson, we "go to bed" in a very unwholesome and stupid fashion.—*British Medical Journal:*

THE CRY IN THE DIAGNOSIS OF DISEASES OF CHILDREN.—The cry of children, according to Dr. E. C. Hill (*Denver Med. Times*), in pneumonia and capillary bronchitis is moderate and peevish and muffled, as if a door were shut between child and hearer. The cry of croup is hoarse, brassy, and metallic, with a crowing inspiration. That of cerebral disease, particularly hydrocephalus, is short, sharp, shrill, and solitary. Marasmus and tubercular peritonitis are manifested by moaning and wailing. Obstinate, passionate, and long continued crying tells of earache, thirst, hunger, original meanness, or the pricking of a pin. The pleuritic is louder and shriller than the pneumonic, and is evoked by moving the child or on coughing. The cry of intestinal ailments is often accompanied by wriggling and writhing before defecation. Exhaustion is manifested with a whine. Crying only, or just after coughing, indicates pain caused by the act. The return or inspiritory part of the cry grows weaker towards the fatal end of all diseases, and the absence of crying during disease is often of graver import than its presence, showing complete exhaustion and loss of power. Loud screaming sometimes tells of renal gravel.—*Arch. of Gyn.*

MENSTRUATION AND LACTATION.—It is a generally received view that the supervention of menstruation during the period of lactation is prejudicial to the quality of the maternal milk-supply, and therefore detrimental to the nutrition of the child. Most practitioners will probably state as a matter of observation, that menstruation unfits the mother as a nurse by reducing the quantity of the milk, in addition to rendering it more "watery." In order to ascertain the real effect of menstruation on the quality of the milk, Dr. Schlicter has made a series of analyses which seem to show that the current belief is founded on defective observation. In addition to careful examination of the composition of the milk during and after menstruation, he had the child weighed and its general condition noted at and after the same period. He reports that in respect both of casein and fat, the milk secreted during menstruation compared favorably with that furnished prior to that date. The differences observed, moreover, in no case equalled those which occur in the milk of the normal healthy female at the various periods of the same day; hence he declines to attach any importance to them.—*Dietetic Gazette.*

TREATMENT OF METRORRHAGIA.—(*Provincial Med. Jour.; Med. and Surg. Reporter.*)—In certain cases of obstinate metrorrhagia, ergotin, extractum hydrastis canadensis, ice, and applications of tampons are alike incapable of arresting the hæmorrhage. In such cases a hypodermatic injection of sulphate of atropine has been recently recommended. It is given in doses of $\frac{1}{100}$ grain twice daily. In one case, in which the hæmorrhage had existed for a fortnight, it was completely arrested after the fourth injection. In a second, when the patient was in the state of collapse, the first injection was followed by a return of the normal temperature and increase of the pulse rate; after the second the hæmorrhage was diminished in a striking degree; after the third it entirely ceased. A moderate dilatation of the pupils was the only secondary effect observed.—*Arch. of Gyn.*

Professor Kobert has discovered that peroxide of hydrogen is an antidote for hydrocyanic acid poison. It should be given freely by the mouth and subcutaneously until recovery or death.

THE CANADA LANCET.

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THE OVERCROWDING OF THE MEDICAL PROFESSION.

Just now a great deal is being said in regard to the overcrowding of the medical profession, and it is no doubt true that the medical profession is at present very much overcrowded. One who has qualified himself for the practice of physic in a full and practical manner, ought to be worth more than a mere living to the community in which he dwells, yet so far from such being the case he is often left to starve, and very often ekes out an existence the pecuniary strain of which, together with the hardships, anxiety, privation and exposure, are so great that it is scarcely worth the living; and yet each year teachers come from the school house, and boys from the farm to study medicine, thinking of the fine practices and positions which at the end of a few years they will be in possession of. They see Dr. So-and-so driving a fine pair of horses, or Dr. Dash in the city with a handsome turn out, and naturally conclude he leads but a life of luxury and ease, and knowing him before he entered medicine are sure he could have derived his comfortable surroundings from no other source than that of his practice. Little do they see of the other side; perhaps that same Dr. has about exhausted his credit and is making a final push, putting on all the front that can be made so as to boom his practice before finally resolving to change his location. What this over-crowding is due to is not very easy to determine. It cannot be rightly attributed to any apathy on the part of the Medical Council; that body have been continually at work for the past ten years at the Matriculation Examination, and although it is higher to-day than the Matriculation Examination required by any licensing body in Europe the influx still continues. The Matriculation Examination and the subsequent portion of the curriculum is to-day nearly three times as difficult as it was ten years ago, and yet the number of students entering the profession is thrice as great, notwithstanding the fact that certain prominent members of the "Medical Defence Association," who originally set out to find fault with the Medical Council because of its having levied a tax of two dollars per annum upon the members of the medical profession, are now (ashamed of their peccant policy) turning upon certain members of the Medical Council who represent the medical schools on that Board, and who have collectively done more to raise the standard of medical education, and maintain the medical character of the whole curriculum than any other members.

In professional teaching, female teachers are crowding out the males, they work for lower salary, and, in the main, do quite as good work. The higher degree of perfection of the public and high school courses makes it easier for the student to matrictulate in Arts or to proceed to a degree in Arts, or to take the Arts course. For a couple of years the student takes the Arts course, qualifies himself for nothing in particular, and hence turns into a law office, or a medical school, or proceeding with his course in Arts in the natural science department he thinks to himself if he could but attend a hospital for a short term he would soon know all there is to know in medicine and become a famous physician, and forthwith seeks the aid of a medical school to complete his object. No doubt, his studying chemistry, biology, botany and physics in the same laboratory with and by the side of the medical student is largely responsible for his turning into the channels of medicine to complete his course, and it will ever be so until the Medical Council sees fit to separate medical teaching in these subjects from the Arts work in the same, for they are essentially different. The possession of a large amount of apparatus and paraphrenalia which is paraded before the eyes of students, and particularly freshmen, the object of which is probably not understood by even the pro-

fessors themselves, does much to make the department of medicine attractive to the student. It is also a fact that at the very time when an increased number of medical men were least needed in the country the Ontario Government saw fit to spend over ninety thousand dollars of state money in erecting buildings in which to teach medicine, and the authorities of a certain university, after such encouragement, applied to the Government for endowment for the chairs of Surgery, Anatomy, Sanitary Science and Medical Jurisprudence, and it was even rumored that a free course on many of the primary branches of medicine would be given if endowment could be obtained for the chairs, and yet there are medical men in the profession to-day who will say such action is justifiable and "*tends to elevate the profession generally.*" If something could be done to make the fees of the medical student as nearly approach to those of the Old Country colleges, as does the teaching itself, it is quite possible the effect would be beneficial upon the schools of medicine and the entire profession.

THE LATE ACTION OF THE DISCIPLINE COMMITTEE.

The members of this committee, Dr. Bray, of Chatham, Dr. Day, of Belleville, and Dr. Logan, of Ottawa, recently had under consideration the cases of Dr. Anderson, of London, and Dr. McCully, of Toronto.

Dr. Anderson's case is not yet decided. He was charged with having been connected with a band of itinerant doctors, the "College of Eminent Physicians and Surgeons"; with entering into conspiracy with one Murray (now in jail in Liverpool for fraud, and illegally practising medicine) for the purpose of deceiving suffering people; allowing his name to be used as a registered practitioner for the purpose of carrying out the fraudulent scheme, and of evading the Ontario Medical Act; representing to the various patients who came to consult the alleged staff of eminent physicians and surgeons that he could cure their cases whether he knew the cases were curable or not, and giving guarantees to that effect; stating on oath in the Toronto police court that he personally examined all patients, in order to save Murray from conviction under the Ontario Medical Act.

Dr. McCully's case occupied a considerable time. A good many witnesses were examined and a good deal of fun and merriment came out of the case. The practices of the doctor are too well known to the profession to need any comment. The upshot of the whole thing was that Dr. McCully sent the following statement to the committee through his solicitor:—

"I admit that the advertisements complained of herein and any others of the like effect or nature are unprofessional, and the publication thereof by me constitute infamous and disgraceful conduct in a professional respect within the meaning of the Ontario Medical Act.

"I submit myself to the action of the Council in the premises, and admit that I am liable on the evidence to have my name erased from the Medical Register.

"I undertake and agree to not further offend in the premises, and ask the Council to suspend action on the report of the committee so long as I, in good faith, comply with the above undertaking.

"It is agreed that the charges other than those which charge the advertisements to be a breach of the Act, are to be considered as undisposed of and untried.

"(Signed) S. E. MCCULLY.
"(Signed) WALTER CASSELS.

"Toronto, Dec. 12th, 1892."

THE ANNUAL MEDICAL BANQUETS.

Trinity's sixteenth annual dinner was held at the Rossin House, Nov. 29th. The menu was excellent and was partaken of by more than 300 students and guests. Among the guests were Chancellor G. W. Allan of Trinity University, Mr. Barlow Cumberland, Dean Geikie, Dr. Graham, Dr. Grasett, Mr. Walter S. Lee, Principal MacMurchy, Dr. Ryerson, Dr. Sheard, Dr. Davison, Dr. G. A. Bingham, Prof. Ellis, Principal Dickson, Dr. A. J. Johnson, Rev. Provost Boddy, Rev. G. M. Milligan, Dr. O'Reilly, Dr. T. Dunfield, Dr. R. B. Orr, Dr. Miller, of Hamilton; Dr. Harris, of Brantford.

The officers were: Chairman, J. R. Bingham; vice-presidents, E. L. Proctor, J. G. Lamont, V. A. Hart; toaster, W. J. A. Ross; hon. secretary, C. C. Field; committee, W. W. Andrus, R. T. Corbett, C. H. Brereton, H. E. Armstrong, J. G. Battell, A. H. Marks, R. H. Foster.

The president, Dr. J. R. Bingham, made a thoughtful and eloquent speech, in which the praises of his *Alma Mater* were duly sung. The whole affair was an unqualified success.

The Toronto dinner was held, also at the Rossin House, Dec. 1st. Among the guests present were His Excellency the Governor-General, His Honor

the Lieutenant-Governor of Ontario, Hon. Chancellor Boyd, Messrs. Justices Rose and Falconbridge, Hon. Richard Harcourt, Acting-Minister of Education, and Vice-Chancellor Mulock, Principal Caven, Principal Dickson, Principal MacMurchy, Prof. Alfred Baker, Dr. C. O'Reilly, Mr. W. S. Lee, Drs. R. B. Nevitt, Fotheringham and W. H. B. Aikins.

The president was W. P. Thompson, B.A., and very creditably did he fill the chair. The speaker of the evening was Mr. Mulock. The point of his speech was that public money should be applied to the teaching of scientific preventive medicine. But he did not show why *one* institution should have a monopoly of such public aid.

The officers who managed to make the dinner such a success were, president, Dr. W. P. Thompson, B.A.; 1st vice-president, J. Crawford; 2nd vice-president, T. W. C. McKay; hon. secretary, J. A. McNaughton; committee, 4th year, F. G. Grant, J. H. Shouldice; 3rd year, J. D. Curtis, W. C. Laidlaw, E. B. Fisher; 2nd year, J. R. Lancaster, M. O. Klotz, E. T. Kellam; 1st year, W. T. Tait, H. M. Cunningham, W. F. Callfas and A. H. Macklem.

RELIABILITY OF WATER ANALYSES.

Practical chemists have long looked askance at the deductions we are taught to draw from the presence of certain chemical substances in water. Even the methods which have been employed have been sharply criticized, and grave doubts expressed as to the value and reliability of the data thus obtained. In Toronto, lately, there have been several analyses of the drinking supply of the city, which differ very materially, and one alderman had the extreme effrontery to make the statement that one analyst, a well-known and clever physician, was either drunk or crazy. It is about time that such men should learn to hold their slanderous tongues in matters of which the laity are very ignorant, to say the least. The comparatively small amount of extraneous salts present in the average sample of water submitted for analysis, renders the quantitative estimates very liable to error, either in the direction of exaggeration, or by overlooking them altogether. It is certain that analyses of the same water by different chemists often display very conflicting results.

According to no less an authority than Sir George Buchanan, there are no tests which enable us to determine the presence in drinking water of organisms detrimental to health.

At most, the chemist is enabled to testify to having discovered albuminoid ammonia, nitrates, etc., which lead him to infer the presence of organic impurities in the water.

According to this eminent authority, it would be far better to make a study of the source of water supply, and eliminate all possible cause of contamination, than to trust to analyses. The bacteriological examination of water, of which so much was expected, has not appreciably added to our knowledge in this respect. The distrust which the didactic pronouncements of water analysts has excited among "those who know," has now become articulate, and it is very probable that, in the near future, transcendental chemistry will have to fall into the background when the question of deciding on the purity, or otherwise, of water, comes to the front.

GOLDEN RULES OF SURGICAL PRACTICE—*Continued.—(Times and Reg.)*:

SYPHILIS.—Do not adhere to the popular division of "hard" and "soft" sore.

Do not forget a sore may become hard four weeks after coition, because it has been inoculated by a mixed secretion.

Do not forget that no matter what the character of any primary sore may be, the chances are that the sequel will prove that it contained the germ of true syphilis.

Do not believe or rely upon sharply defined rules for the diagnosis of chancre; even with sores which are obviously soft and non-infecting until the incubation period (3—5 weeks) is well passed.

Do not entertain any confidence that induration will not occur; and it would be acting most unwisely to give an absolute opinion on the matter.

Phimosis acquired is so common an accompaniment of the three venereal diseases, acute gonorrhœa, soft sore, hard sore, that you ought never to express a decided opinion until you have got a look at the trouble.

Do not hesitate to slit up the prepuce, in order to examine and treat a sloughing sore. If *you* do not do it the sloughing most probably will.

Always prohibit smoking, and any diet which may lead to diarrhœa while mercury is being given for syphilis.

Never forget occasional idiosyncrasy in patients against taking mercury and iodide.

Remember the one simple rule for successful treatment of syphilis is, keep inunction and fumigation methods for exceptional cases, and give small doses of mercury more or less frequently, but never large doses.

Never forget that with a patient confined to bed and on low diet, ptyalism can be produced with half the dose of mercury.

[N. B.—Rapid loss of weight means that mercury is disagreeing with the patient.]

Remember that pot. iod. and mercury, except in the scrofulous and in cachetic patients, are well borne in syphilis if there is need of them.

Never forget to warn your patient of his gums and his tendency to catch cold, when taking mercury.

For all cases of phagedæna, mercury ought always to be given.

Remember the earlier mercury is exhibited, the greater the probability that the symptoms will be wholly prevented or delayed.

Never exercise a syphilitic testis, however bad, even when there is abscess and fungus testis.

Remember in tertiary syphilis whenever a case resists the iodide, and whenever it is important to obtain a rapid result, the mercury should be added to the iodide or the mercury should be given alone.

Never omit to give opium in all gangrenous and sloughing wounds which do not prove amenable.

Remember syphilis may imitate all known forms of skin disease, but it can produce no originals (Hutchinson).

Never forget that lichen ruber and lichen planus are often dusky and copper tinted, and present all the features which to those of limited experience suggest a confident diagnosis of syphilis.

Remember that in rare instances syphilis imitates variola closely; there is, however :—

1. Persistence.
2. Absence of odor.
3. History to guide you.

Never let a markedly syphilitic mother suckle her child.

Never let a syphilitic child have a wet nurse.

In syphilis do not sanction marriage until two years after the date of infection, and then only if the patient is free from gleet, and has thoroughly and successfully been treated with mercury.

Never assume, as was formerly done, that mercury should be avoided when syphilitic sores ulcerate; on the contrary, when used with iron, quinine, and opium, it will almost always prove the means of cure.

Do not forget that the safety of the eye in syphilitic iritis depends, however, mainly upon the promptitude and efficiency with which atropine is employed.

Never forget to examine for retinitis and choroiditis if a syphilitic patient complains of failure of sight or muscæ, and use mercury smartly if you find either.

Never neglect local measures in the lesions of intermediate and tertiary stages of syphilis.

Remember that a node of secondary syphilis usually disappears or is prone to ossify, but a tertiary like other gummata are more liable to suppuration and caries.

Do not open a syphilitic bubo unless acutely suppurating, or remove a node of bone; they usually absorb.—*To be continued.*

TREATMENT OF CYSTS AND ABSCESSES BY PAPOID AND PEROXIDE OF HYDROGEN,—We take the following from the *Med. and Surg. Rep.* The first case was one of sebaceous cyst having existed for at least ten years, and until recently, given but little trouble. When I opened the sac, it was inflamed, partly broken down and about to open at the site of my incision. Its cavity contained about 16 to 20 grams of decomposed serum and pus. I made but a small incision that the fluids might be better retained. The solution employed was as follows, viz:

R.—Papoid,	. . . . .	15 to 20 grams.
Sodii bicarb,	. . .	5 to 10 grams.
Aquæ,	. . . . .	100 c. c.

This injection was allowed to remain from one to eight hours, then pressed out of sac, and a strong solution of peroxide of hyrdogen introduced to thoroughly clean the cavity. This was repeated once or twice daily The patient was irregular in treatment of cyst, otherwise the result would have been obtained earlier. A few weeks of this treatment entirely removed the cyst wall, and satisfactorily cured the case.

The second case was one of perineal abscess, that owing to the carelessness of the patient had existed for several months, during which period it had been thoroughly injected daily with peroxide of hydrogen solution. The patient was unwilling to remain away from his business, and thus have the necessary rest for cure, and also was troubled with uric acid deposits and calculi in bladder. The abscess improved under above treatment, but would break down occasionally and discharge pus. Several times the urethral floor was perforated by the pus, and urine passed freely through the sinus. I injected a 15 per cent. solution of papoid, of the formula above given, allowing it to remain in the cavity about ten to fifteen minutes. The patient described the sensation at the time, as though many mosquitoes were stinging the sac walls. I cleansed the cavity with peroxide hydrogen solution as before. In a day or so, the abscess closed, and remained so for ten days; it then had a slight discharge of pus, but an injection of peroxide hydogen was followed by permanent closure of the sinus. This treatment was given three or four months ago.

The prompt arrest of this abscess from a single injection of an alkaline 15 per cent. solution of papoid, greatly surprised me. The cure can not be attributed to peroxide of hydrogen, as this had been used for months with favorable, but not curative results; employed after the papoid, it simply or mainly oxidized the debris or digested pyogenic membrane, facilitating its removal.

Had I employed the papoid and been aided by rest to my patient, I am confident that I could have cured the case, probably several months earlier.

TREATMENT OF FEVER.—This old, but ever new subject is one in which every medical man must be certainly anxious to be refreshed. It lies at the root of so much of every-day work that any ray of light must be gratefully received. The following conclusions by Dr. Graham Steell, of Manchester, *Manchester Med. Chronicle*), are worthy of note :—

1. Attention must in all cases be directed to the normal fever of the disease, and to the accompanying pulse-rate. Only when the fever and pulse-rate assume abnormal severity is there place for consideration of antipyretic treatment.

2. Of the methods of antipyretic treatment, that by bathing is unquestionably the best, and the patient should be placed, first of all, in tepid water, which is subsequently cooled. Wet packing is a much less efficacious method. Treatment by antipyretic drugs is the worst method of antipyretic treatment, but notwithstanding is often useful, both employed alone and as an adjunct to treatment by bathing. In hyperpyrexia, treatment by drugs is useless, and cold bathing affords the only trustworthy treatment.

3. The general laws which govern antipyretic treatment appear to be similar, whatever the method of treatment adopted. He is aware that theoretical consideration may be urged against this statement, but he is speaking from the practical standpoint.

4. There can be no doubt that the severity of a fever in the immense majority of cases may be well estimated by the resistance which the pyrexia offers to antipyretic treatment. As a general rule, continuous fever offers greatest resistance, remittent less, and intermittent least. The greater efficacy of antipyretic treatment in the later stages of typhoid may be partly so explained. The fact of degrees of resistance to antipyretic treatment, corresponding to degrees of severity of the attack, suggests that the course of mild and moderate cases might be greatly shortened by a vigorous adoption of antipyretic treatment.

5. The difficulties in the carrying out of antipyretic treatment by bathing, are so great that the treatment must be reserved in private practice for cases in which danger threatens from high fever and severity of the general symptoms. Antipyretic drugs may often be used with advantage as adjuncts to treatment by bathing, and occasionally alone. Nevertheless, their use is to be avoided as much as possible.

SOME MODIFICATIONS OF THIERSCH'S METHOD OF SKIN-GRAFTING.—Watson (*Boston Med. and Surg. Journal*) gives the following modifications of Thiersch's method adopted by him :—

1. The substitution of a four per cent. boracic solution for the sterilized salt solution, both during the operation and in the subsequent dressings if wet dressings be used.

2. Instead of the frequently repeated moistenings of the grafted surface and the dressings, it is

sufficient to wet the gauze dressing once in twenty-four or forty-eight hours with boracic acid solution; the gauze dressing being covered over the outside by a rubber of gutta-percha tissue.

3. If the dressing remains odorless it need not be removed until at the end of from four to six days after the first application.

4. Perfectly successful immediate results may be obtained under the use of dry sterilized dressings—healing taking place under one dressing. (This plan I have not tried, however, sufficiently often to be able to say from personal observation if the good results are as invariable as under wet dressings, or if the skin of the newly-healed surface is as sound ultimately.)

5. It is unnecessary to curette the surface to be grafted, provided it be covered by healthy, fresh, red, flat, granulation tissue. This omission saves the time which is required to still the bleeding which follows curetting.

6. Where, under a reverse condition of the exposed surface, curetting has been done, the application of an Esmarch bandage and tourniquet, when possible, and the leaving of the latter in place for from one-half hour to an hour after the operation has been completed is of decided advantage.

7. It is not necessary to the success of the operation that the whole of the exposed surface should be covered with grafts at any one time. The patient may be in a too exhausted condition to allow of the prolonged etherization necessary to cover an extensive area; if so, there need be no anxiety as to the result if but a portion of the surface be grafted at one time.

Dr. McBurney recommends that the skin be stretched from which the grafts are taken.

PHYSICIAN'S VISITING LIST.—The forty-second publication of "The Physician's Visiting List," by P. Blakiston, Son & Co., Philadelphia, for 1893, is the most complete, smallest and lightest visiting list published. The fact that it has been published for over forty years is sufficient guarantee of its excellence and popularity. It is published in various sizes, for from twenty-five to one hundred patients a day or week. Besides its usefulness as a visiting list, it is a pocket-book containing valuable information for a physician. In it may be found a reliable dose table, tables of the metric system, a list of new remedies, rules for examining the urine, a table for calculating the period of pregnancy, the antidotes for poisons, the proper methods of resuscitating the half-drowned, and other equally useful information. For durability, neatness, completeness, and simplicity of arrangement, it is excelled by none in the market, and the low price of the list brings it within the reach of all.

DOVERS' POWDER IN THE TREATMENT OF COLLIQUATIVE SWEATING.—Dr. G. Frank Lydston, of Chicago, stated in a recent clinical lecture, that while an interne in the New York Charity Hospital, he experimented quite extensively upon the abundant clinical material in the medical wards, to determine the relative value of the various remedies recommended for night sweats, particularly in pulmonary consumption. He found atropine not only unreliable but productive of certain disagreeable effects that more than counterbalanced its possible advantages. The mineral acids and other tonic remedies and astringent caths were not much more efficacious than the atropine. He established, to his own satisfaction, that there are but two remedies which can be relied upon to check night sweats. These are the Dovers' powders and the active principle of cocculus indicus or picrotoxin, the former being by far the more valuable of the two.

HABITUAL ABORTION.—Assafetida has been recently recommended in cases of habitual abortion (*Lancet*). Dr. Tuazzo gives it in pills containing a grain and a half as soon as it becomes clear that a new pregnancy has commenced. At first only two pills are prescribed, but later on the number is gradually increased to ten daily. The treatment is continued until the labor is over, and then the daily dose is gradually diminished. By this method, cases where as many as five successive abortions had occurred have been successfully treated, and where in one instance a miscarriage appeared to be imminent during the seventh month it was averted and the patient was delivered at full term.

SALOL FOR GONORRHŒA.—Dr. C. Underwood says: (*West. Med. Rep.*,) that salol can reduce the duration of gonorrhœa to the lowest limits. The method consists in the regular employment of

from forty to sixty grains of salol through the day I order my patients to have four doses of from ten to fifteen grains each, taken immediately on rising in the morning, at 11 o'clock a.m., 4 o'clock p.m. and the last thing on retiring to bed at night. This I ordered in a powder or compressed tablets. Having known that many of these tablets passed through the intestinal canal without being absorbed and in the form they were administered, I am now using the drug in a powder form It is tasteless and is not complained of by patients. The dose is begun, unless the patient shows that the drug disagrees with him, with sixty grains a day continued until the discharge has become very meagre. Then it is gradually lessened. The author claims that better results follow this method than any other.

HINTS ON COUGHS.—Dr. Walter F. Chappell (*New York Med. Jour.*) divides coughs into six classes, according to their frequency. The first class is the catarrhal cough, sometimes so called, to remove accumulations of mucus from the naso-pharynx or due to enlargement of vessels or gland tissue of the pharynx or base of the tongue. Second class: From a common cold, acute rhinitis, extending later into trachea and bronchi. Third class: Different forms of cough occurring in the various stages of phthisis. Fourth class: Winter cough from bronchial catarrh, chronic bronchitis, and quiescent or arrested phthisis. Cough worse at night and in early morning. Expectoration, white and frothy. Fifth class: Nervous coughs, generally of a reflex origin, paroxysmal, sometimes violent, characterized by short, dry hacks. Sixth class: Alcoholic or gastric. The patient shows symptoms of digestive disturbance; fauces and pharynx are of a deep red, often bluish color. The condition is due to over-indulgence in food and alcoholic beverages. In persons of a rheumatic or gouty tendency very little will produce this result. His directions for treatment contain nothing new.

VIVISECTION.—The subject of vivisection has recently been brought up again in England *Boston Med. and Sur. Jour.*), the occasion being the meeting of the Church Congress. The principal speakers in favor were Drs. Wilks and Ruffer, and Mr. Victor Horsley. Mr. Lawson Tait, who has announced himself on previous occasions as an anti-vivisectionist, did not appear. The bishops appear to have been divided, two of them being the principal advocates of the anti-vivisection party. The argument appears to have been very much in favor of the vivisectionists, although no definite conclusions were reached.

Mr. Lawson Tait's challenge to the vivisection party to point to a single instance in which valuable knowledge has been acquired by the aid of experiments on living animals, has been met by a refusal on the part of Sir Andrew Clark, Sir James Paget, Dr. Wilks, and Sir George Humphry to discuss the matter in public. They claim that no important progress has been made in medicine, surgery or midwifery which has not been promoted by this method of inquiry.

HAS CANCER A SPECIFIC ORGANISM?—Dr. Ohlmacher *(Chicago Med. Rec.)* says regarding the above question:—1. That the microbic origin of cancer is wholly unsupported by experimental evidence. 2. That a characteristic and pathogenic animal micro-organism has not yet been found. 3. That inoculation and cultivation experiments have thus far been negative. 4. That most of the peculiar inclusions of carcinoma are the results of cell degeneration or cell metamorphosis, and are not characteristic of carcinoma. 5. That the hyperchromatosis and fertilization theories of Klebs and Macallum are too full of speculation.

TREATMENT OF GONORRHŒA.—Reverdin recommends (*Rev. de Chir.*) permanganate of potash irrigation in the treatment of gonorrhœa in all its stages. No other treatment is used, no untoward complications have been observed, and complete cures have been made in three days, the average being fifteen days. The urethra is cleaned by having the patient urinate, and washed out by syringing with permanganate solution. A soft catheter is introduced, not beyond the bulb, of course, attached to a fountain syringe, and three or four pints allowed to run out of the urethra. The strength of the solution varies with the tolerance of the mucous membrane, one to five thousand being used at first, and its temperature should be about 110° F. The discharge practically ceases after the first two or three washings, but the treat-

ment must be continued until all signs of inflammation have disappeared. The recommedation is based upon an experience of eight years.

TREATMENT OF RINGWORM.—Crawford Warren, F.R.C.S.I. *(Lancet)*, suggests the following treatment for this affection: The affected region should first be washed with soap and warm water containing a little carbonate of soda, and then well dried. Ascetic acid should then be thoroughly applied with a small brush, and in the lapse of about five minutes, when the acid will have soaked into the part, an ointment composed of sixty grains of chrysophanic acid to an ounce of lanoline should be rubbed in. This treatment should be carried out daily for such a period as may be necessary.

ANTIPYRINE IN EPISTAXIS.—Dr. E. G. West, of Boston (*Med. Rec.*), finds antipyrine decidedly reliable in epistaxis. It is his custom when a case of unusual violence occurs, to saturate a pledget of cotton in a solution of antipyrine, or in the dry powder, and introduce it into the nostril. It stopped the bleeding in every instance that he applied it. The patient by this method is relieved of the disagreeable tarry clots formed by the solutions of iron, so commonly used for this purpose.

It may interest you to know that I have had a most satisfactory result from the administration of your BROMIDIA in a case of sleeplessness, after a slight apoplexy, with partial paralysis of the right cheek and arm. The patient (male, 63 years old) suffered from weak heart, and before coming under my care had been given Sulphonal, Paraldehyde, etc., without sleep being obtained. The first night here he received one drachm of BROMIDIA and got seven to eight hours' quiet sleep without any ill after-effect from the drug. The same dose continues to give the patient some hours' sleep every night.—M. Colet Larkin, M.B., C.M., Ramsgate, Eng.

HYDRASTIS CANADENSIS FOR THE VOMITING OF PREGNANCY.—Férodow, a Russian gynecologist, has (*Gaz. Med. de Paris*) controlled obstinate vomiting in four cases of pregnancy by the administration of twenty drops of fluid extract of hydrastis four times a day. The efficacy of the remedy is said to depend upon a lowering of the blood-pressure, relieving the engorgement of the uterus, and upon a sedative influence upon the motor nervous centers and the gastro-intestinal canal.

ALL THAT IS NECESSARY.—The American Association for the Advancement of Science, says the following lines are all that is necessary for the physician to learn in order to prescribe in the metric system:

1,000 milligrams make 1 gram.

1,000 grams or cubic centimetres make 1 kilo or liter.

65 milligrams make one grain.

15½ grains make one gram.

31 grams make one ounce, Troy.

PERSONAL.—Dr. W. Stewart Philp (McGill, M.D., C.M., '89; M.C.P. & S., Ont.), who is spending the winter in Florida, has been recently accepted a member of the "Florida Medical Ass'n," after passing a most creditable examination.

Books and Pamphlets.

TEXT BOOK OF OPHTHALMOLOGY. By Ernest Fuchs, M.D., Professor of Ophthalmology, University of Vienna. Authorized translation from the second enlarged and improved German edition, by A. Duane, M.D., Assist. Surg. New York Ophthalmic and Aural Institute; with numerous illustrations. New York: Appleton & Co. 1892. Canadian Agency, 170 Yonge St., Toronto.

This work, fresh from the master-mind of the foremost ophthalmologist in Europe, cannot fail to be of great utility to all who desire to post themselves upon the subject treated of. The text is clear and concise, embracing every advancement made in the science of ophthalmology. We can scarcely call attention to any one part of the subject, as all are treated of in the most thorough manner; the pathology, physiology, and operative procedures in every disease being indicated in a thoroughly practical and efficient manner. The chapters devoted to Errors of Refraction are unsurpassed in any work extant, this difficult subject being placed in such a form as to be understood by all desiring to avail themselves of special training upon the subject. It is, in fact, the greatest and best work upon the subject of ophthalmology every written.

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Original Communications.

DIPHTHERIA—ITS TREATMENT.*

BY W. BRITTON, M.D., TORONTO.

My duty is to say something concerning treatment; and as the subject is comprehensive beyond my time limit, I shall be obliged to make statements in a somewhat disconnected, fragmentary manner.

The premises will be conceded by the majority of those present that the disease in the early stages is distinctly local in character, for the following reasons:

1st. Marked prodromata are seldom observed before local manifestations; and in the exceptional instances germs probably lie in the respiratory passages, producing toxalbumin for absorption, sufficient time not having elapsed for gross signs to appear.

2nd. As a rule the more extensive the membrane and the lower in character, cæteris paribus, the more profound the toxæmia.

3rd. Absorption and consequent general symptoms occur largely in proportion to the lymphatic supply of the part initially affected; for example, adenitis is extreme in pharyngeal and nasal forms and slight in tonsillar.

4th. Although it is still in some degree a *quæstio vexata*, it is pretty generally acknowledged that the Klebs-Lœffler bacillus is peculiar to the disease; always present in the earlier stages at least, limited to the false membrane, most numerous when the attack is at its height, diminishing as the case approaches recovery, and productive of the characteristic neuroses, when the cultures are injected into lower animals, notwithstanding Virchow's contention that all bacilli, whether noxious or inert, are the same organisms, and are products of disease, not the cause; the differences of form being dependent on the varied environment.

Hence arise the strongest reasons in all cases, even though the diagnosis be incomplete, that prompt local medication be resorted to. And first of all how had it better be applied? The sponge or cotton swab, excepting in the case of the most heroic abortive remedies, for circumscribed patches is to be avoided as being too harsh for the requirements. The brush, excepting in similar circumstances, is also objectionable; it wearies the patient, and, if used thoroughly, especially when the membrane is extensive, the performance is tedious, and jeopardizing for the attendant. The atomizer is free from these defects, and the best I have found is the Magic No. 25, moderately simple in construction, fitted with vulcanized rubber, and therefore non-corrosive and durable, and so arranged as to adapt itself to the anotomical peculiarities of the throat and naso-pharynx.

Steam favors formation of mucous, mucous floats germs, shields the underlying membrane, and opposes absorption; and if impregnated with antiseptics and constantly enveloping the patient, it is not only a remedial agent, but also protects the attendant. A convenient and pleasantly aromatic combination is oil of Eucyalyptus, carbolic acid, and oil of turpentine in equal quantities, an ounce of which is kept boiling in a quart of water over a spirit lamp.

The local remedies that have been vaunted as specifics, and in turn have died a natural death from inanition, are legion; but whatever differences of opinion may have prevailed concerning their efficacy, nearly all authorities, from Aretæus down to the present, have strongly forbidden forcible removal of the membrane, excepting in extreme cases of obstruction, therefore the applications are made over the diphtheric exudation.

They may be divided for convenience into three classes: 1st, the destructive or heroically abortive. 2nd, antiseptic, and 3rd, solvents of the membrane. In the first class are found acetic, lactic, citric, hydrochloric and carbolic acids, argentic nitras, an old so-called specific, chlorine and bromine; the last mentioned perhaps the best if care is taken in its application. It may advantageously be prepared according to the following formulæ:

*Read before the Ont. Med. Assoc., June, 1892.

℞.—Saturated solution of potas. brom , ℥ii.
Bromine, ... ℥i.
Aq. destill, ...
Glycerin, ... āā ℥iv.—M.

These corrosives should be employed only in exceptional instances, viz., when the initial lesion is distinctly circumscribed, the remaining mucous membrane being of a healthy color; and even here the greatest precautions should be taken in limiting the application to the diseased parts, lest new foci be formed by destruction of tissue beyond the requirements of the case.

The most prominent of the antiseptics or 2nd class, are sulphurous, boracic, salicylic, and diluted carbolic acids, chlorate of potash, tincture of iron, permanaganate of potash, iodine and corrosive sublimate, which last may be safely used as a spray up to 1 in 2000.

A large number of remedies have been tried as solvents of the exudation, the chief ones being papoid, lactic acid and lime water, lime water and glycerine, pilocarpine and peroxide of hydrogen. The last mentioned is at present in the meridian of its glory, but it may be that in the near future its sun will go down, as has been the ignoble fate of so many of its predecessors. The application of scientific medicine is not infrequently the development of fashion, in this particular instance I myself have fallen into line behind the bell wether, and have had some experience as to the merits of peroxide of hydrogen; but although I use it frequently, I cannot say that the results are better than those I formerly met with when for several years I relied upon a mixture consisting of tannic acid ℥i, glycerinum ℥ss, acid carbolic ♏ xv., Lugol's solution of iodine ℥ss., and water sufficient to make one ounce.

Hydroxyl being an unstable compound, owing to the free elimination of nascent oxygen, it is imperative that it be carefully preserved and its immediate effects closely watched. Marchand's and Harvey's No. 1, are the best in the market, and should be kept in a well-corked bottle, standing on the cork, in a cool dark place; the atomizer to be emptied into the vial after each application. If no foaming is produced by its contact with the exudation, the sample should be discarded as worthless. Its action being that of powerful oxidation the strength should not exceed the requirements; it is usually employed mixed with distilled water from a twenty per cent. solution upwards.

In all nasal cases absorption takes place readily from the Schneiderian membrane, and the strictest watchfulness is necessary to ensure cleanliness; for this purpose the syringe, douche or atomizer may be employed with such remedies as boric acid, chlorate of potash, permanganate of potash or peroxide of hydrogen. Should false membrane be so large as to occasion obstruction to the cleansing process, the urgency of the case permits of such apparently harsh measures as forcible detachment, or boring of the membrane in order for the introduction of the lotion.

Time will not permit of a description of the operations, intubation and tracheotomy, when the larynx is involved, but a few well attested truths may be briefly stated.

1. The mortality in each is virtually equal, about 26 per cent., therefore the peculiarities of the case, not the relative merits of the operation, must determine which is to be resorted to.

2. Very young children, requiring, necessarily, a tube of small calibre, are best tracheotomized.

3. Intubation is as a rule preferable after the 5th year, and especially in adults.

4. If membrane exists low down in the larynx, it is better to open the trachea.

5. The after treatment is more exacting in tracheotomy, consequently intubation is to be chosen in the absence of skilled nursing.

6. The length of time for retention of the tube in either instance is to be determined by the rate of progress of the disease, the average being, perhaps, seven or eight days; but if at any time during this period after intubation pneumonic complications should appear, the tube must be removed to allow of expectoration.

7. To wait until symptoms of impending collapse occur is to cast unjust reflections on the means employed.

8. In every instance of contemplated operation the lungs should be as carefully examined as the circumstances will allow, and the prognosis modified accordingly.

9. The most frequent cause of fatality after operation is inflammation, in the form of broncopneumonia, arising from circulatory disturbances set up by the occurrence of lobular collapse dur-

ing the stage of dyspnœa; hence the danger of delay after stenosis is evident.

Microbes are tenacious of life; cultures of diphtheritic bacilli months old have been found to have poisonous properties, and it has been wisely said that remedies strong enough to destroy all the bacilli, are just as apt to kill the patient; hence the difficulty in finding specifics, and the special fitness in the case of this disease of the adage "An ounce of prevention is worth a pound of cure." Prophylaxis stands in the front rank—disease germs are fond of a weakened or diseased part. Some of the most malignant cases I have seen have been engendered on a catarrhal mucous membrane, adenomata of the pharynx, and enlarged or otherwise diseased tonsils. A physician who overlooks these predisposing causes is, to the fullest extent, culpable. I can only suggest the means of prevention:

1. Isolation of the patient perfect and continued for at least two weeks after the last vestige of the disease has disappeared.

2. Destruction of all fomites, no matter how valuable, unless such as can be boiled in a strong antiseptic fluid, preferably corrosive sublimate solution.

3. Conscientious compliance with the requirements of the Health Act in reference to reports of contagious diseases.

4. Thorough inspection of premises. In the large majority of my own cases, drainage has been found defective on the application of thorough tests.

The disease being essentially poisonous and adynamic, the constitutional treatment indicated is antiseptic, stimulating and supporting. The diet should be fluid and generous, up to the limits of digestion—for hungry lymphatics eagerly absorb, and absorption means toxæmia. The tendency is towards exhaustion, and such tonics as quinine and tincture of iron are indicated. It is a hackneyed custom to add chlorate of potash in large quantities, quite irrespective of its tendency to produce heart failure and nephritis. Prof. Wood, of Philadelphia, maintains that it is eliminated in its entirety and unaltered through the kidneys.

The muriate of iron appears to be the standard supporting remedy, and acts in two or three ways: 1st, it causes tissue tonicity, and perhaps in this manner narrows lymph spaces, and prevents absorbtion. 2nd, it feeds blood corpuscles, promotes oxidation in the tissues, and thus destroys organic poisons. And, 3rd, it stimulates nervous force by increasing blood pressure in the great centres.

Stimulants are tolerated in proportion to the profundity of the toxæmia, the specific poison acting as an opponent of alcohol, just as opium is well borne in peritonitis, quinine in malaria, and iodide in syphilis, therefore, they are invariably indicated, and the directions are simple, *pro re nata*, and in kind adapted to the palate.

The leading antiseptics administered constitutionally are calomel, mercuric iodides, corrosive sublimate, up to the limit of a grain per diem, in divided doses for a child five or six years old, salicylic acid, a favorite of the late McKenzie, chlorine water and nascent chlorine, strongly recommended by Gerhard, of Philadelphia, prepared according to the formula:

Chlorate of Potash	3 parts.
Muriatic Acid	2 "
Tincture of Iron	5 "
Sprup	15 "
Water	40 "

Dose a teaspoonful diluted.

Lately sulphide of calcuium has been highly spoken of, but I cannot pronounce on its merits from personal observation. It should be borne in mind that heart failure, the bugbear of the disease, is not always preceded by a rapid pulse as one would expect; if the pneumogastric is involved the pulse is frequent, but the opposite occurs if the cardiac branches of the sympathetic are affected. The remedies are absolute rest in the recumbent posture, stimulants, digitalis in small doses, musk, camphor, caffeine and strychnia, either by the mouth or hypodermically.

Seibert has been experimenting with only indifferent results with injections of chlorine water into the sub-diphtheritic mucous membrane, the fluid being introduced with a many pointed syringe, and the operation followed by a gargle of iodine, carbolic acid and water. In the *Glasgow Medical Journal*, Bannatyne speaks of injections of attenuations of the erysipelas poison, with the expectation that the product of another microbe may act as an antidote to the Lœffler bacillus;

and it is to be hoped that the problem may be solved along the same line as that pursued by Pasteur in his triumphs over hydrophobia and other dread diseases.

Amongst the complications albuminuria is not rare in the early stages, but if it persists, casts of the tubuli should be looked for, and the ordinary treatment for nephritis adopted. This is occasionally interstitial in character, and then more apt to become chronic. Adenitis, usually cervical, seldom leads to suppuration, but may leave the glands permanently hypertrophied. In the acute stage ice bags are useful, also ice taken frequently by the mouth.

I have had a few cases with extraordinary œdema of the uvula interfering with deglutition, and have found two or three applications of Monsel's solution and water in equal parts, comforting to the patient.

I have seen but one instance of diphtheritic conjunctivitis—a rare complication. It was bilateral and complete, the eyes covered as with a mask of leather; treatment was unavailing. Sloughing of the cornea and total blindness ensued. Boracic acid or other mild antiseptics should be used. The paralyses that follow the disease are manifold, the most frequent being ciliary and ocular, glosso-pharyngeal pneumogastric, sometimes in one branch alone, and paraphlegia.

The lesion in all such cases appears to be peripheral neuritis. For the purpose of obviating it, the syrup of triple phosphates might be administered during convalescence, and, in the way of treatment, a very mild interrupted electric current would be a useful adjuvant.

Secondary middle otitis is not infrequent, but requires, or admits of, no special treatment apart from that employed in acute inflammation in that part. In washing the nasal passages it is well to direct the patient to keep the mouth open in order that the fluid may not enter the Eustachian tube and perhaps carry disease germs with it.

I have refrained from quoting from experience illustrative cases, and shall close with the following reference.

A boy, aged 14, had diphtheria a year ago, followed by temporary presbyopia, convergent strabismus, glosso-pharyngeal paralysis and paraplegia. These symptoms subsided in a few months and were followed by a very great loss of memory of facts, without aphasia, which continues up to the present. The patient being apparently well nourished and physically robust, I am at a loss to locate the anatomical lesion, and simply mention the matter as a curiosity, in the hope that some one present will solve the difficulty.

ETIOLOGY OF NARCOTIC INEBRIETY.*

BY J. B. MATTISON, M.D.,

Medical Director Brooklyn Home for Habitués; Member American Association for the Cure of Inebriety; Brooklyn Neurological Society.

Twenty-two years study and experience, compassing the history or treatment of hundreds of cases, has emphasized a belief, which candor compells me to express, that in nearly all cases of narcotic inebriety among the better class in this country, the primal and principal factor in causation is the doctor. There is a consensus of opinion from those best informed—by contact with such cases—to the same effect. It is, too, a well-founded fact that in those same cases painful, wakeful conditions have stood, most largely, in genetic relation to the morbid narcotic weed.

Granting these two facts, it goes without saying that the force and extent of professional responsibility is both active and passive, direct and indirect. Opium, chloral and cocaine are the main types of this inebrial disease, and the first is, by far, the most frequent. Of this, morphinism is most common, and the sub-dermic form the most disastrous.

The active, direct responsibility of medical men in the rise of morphine inebriety is in giving this drug often when it is not really required. Little doubt, during the last two decades, of its carelessly needless use, and as little question that this has favored its insiduous advances. Akin to this, is the too prevalent practice of giving morphia when other anodynes, though perchance less speedy, would secure the same result. Still more forceful, as to direct responsibility, is the pernicious practice of advising patients to self subcutaneous morphine using. But the main measure thereof is in the patient being dismissed without full thought as to ultimate result of the opiate giving,

*Read before the Brooklyn Neurological Soc., Dec., 1892.

and failure to warn against the harm of continued using, and to insist upon—giving to this earnest personal attention — entire narcotic quitting when the need for its taking is ended. For details, see papers by the writer, "The Responsibility of the Profession in the Production of Opium Inebriety," and "The Genesis of Opium Addiction."

Chloral and cocaine inebriety—happily decreased and decreasing—owe their rise and progress to the same incautious prescribing and continuing. Added thereto, in the case of cocaine, I have little doubt, has been the mistaken, pernicious opinion of Hammond and Bosworth, as to its non-toxic, non inebrial power. *Vide* my papers: "Chloral Inebriety," "Chloralism," and "Cocainism."

While insisting on the part played by the physician in the genesis of narcotic inebriety, I do not overlook the peculiar neurotic status, both ancestral and acquired, of these cases. Nor the facility with which this specially nervous temperament favors the use of one or other drug, as a stimulant in depressed conditions, or a calmant in the reverse. Nor do I forget that some have their rise in vicious design, morbid curiosity or other outcome of damaged *morale*. All these, however, hold second place in causation.

If these premises be correct, the weightiest deduction is this, Narcotic inebriety is a preventible disease. That I believe a fact—of large and far-reaching importance—and the pivotal point of all precept and practice along this line. The forms of narcotic inebriety are on the wane, due to wider recognition and appreciation of their cause and the danger of continuance, and to the advent of less harmful hypnotics. Erlemmyar thinks morphinism will grow worse from year to year. I am less pessimistic than he. I am hopeful and sanguine of its steady decline. But this hope will be realized only when two results are reached. First, a lessened medical use of morphine. This must be secured by teaching and example. Those whose province it is to instruct in medical lore, both in and out the schools, must rise to the need of the situation, and urge the wisdom of prevention and care. This is of paramount importance, if my belief be true, that the younger men are making most morphinists. With a wish for speedy effect and larger repute they are too apt, when called to a case of pain or insomnia, to use that modern mischief-maker, the hypodermic syringe, without proper thought as to risk incurred. Their fathers have gained wisdom by experience—sometimes most unhappy—and, as a result, we believe the use of morphia—especially sub-dermic use—is steadily decreasing among the senior members of the profession.

With non-opiate resources of modern medicine to bring ease and sleep—never so ample as now—we feel bound to say that in most cases these first should be availed of, and the more riskful remedy held as a *dernier ressort*. And in the should-be fever cases where an opiate is deemed necessary, we have, in codeine, that which gives, largely, the good of morphine with much less risk of entailing harm. See the writer's papers: "The Prevention of Morphinism: Codeine and Narceine *vice* Morphine," and "Codeine in the Treatment of the Morphine Disease."

We have no wish to banish opium; we are not inveighling against the use of morphine. But the over-use, the needless, careless use, especially hypodermically, we decry. The risk of inebriety from this method is larger than any other. Unless urgently required, it should not be preferred. And to counsel its self-using—save under conditions peculiar or beyond control—is more than culpable, it is a crime.

Second. A lessened general use of morphine. Restrictive legislation that will restrict; making it a felony for retail druggists to sell morphine, chloral or cocaine, or to refill a prescription containing either drug, save on order of a physician. To neglect these potent measures for protection is damaging to the public and a discredit to the profession. The prevention of disease ranks higher than its cure, and in the whole realm of prophylactic medicine there are few finer fields for good work than this.

Selected Articles.

THE TREATMENT OF ANAL FISSURE, OR IRRITABLE ULCER OF THE RECTUM

There are some general rules that must always form a part of the treatment of anal fissure, to wit: to lessen as much as possible any inordinate action or detension of the bowel, and to prevent the ulcerated surface being irritated and abraded by the passage of hardened feces.

To fulfil these indications enemata or mild aperients should be employed, and the diet must be regulated, the use of bland and unirritating food being enjoined.

It is not possible to point out a diet that would be even generally applicable, as so much must depend upon the state of the constitution and the previous habits of the patient; but in general it should be moderate in quantity, yet sufficiently nutritious —what the stomach can digest with ease, and has no tendency to produce constipation.

The patient should be directed to take moderate exercise; and if the bowels are disposed to be costive, a daily evacuation should be secured by the administration of an enema of warm water, or one of rich flax-seed tea, say from half a pint to a pint, to be given every evening, preference being given to the night time as the patient can then assume the recumbent posture, which, combined with the rest, affords the greatest protection from subsequent pain.

Instead of the enema, or in conjunction with its use, the action of the bowels may be regulated by the employment of some mild aperient, such as the patient has found by experience to agree with him.

All drastic purges should be avoided, as they are more or less stimulating and irritating to the extremity of the rectum. The pain and spasm of the sphincter muscles attending the evacuation of the bowels is best relieved by the use of a suppository consisting of—

R—Ext. belladonnæ, . . . gr. $\frac{1}{8}$ to $\frac{1}{2}$.
Cocain. hydrochlor, . . gr. $\frac{1}{4}$ to $\frac{1}{2}$.
Ol. theobromæ, ... gr. x.
Misce et ft. suppositoria j.

One suppository to be employed about half an hour before the enema is given, or a movement of the bowels is expected.

Instead of the suppository, an ointment of extract of conium my be used, as recommended by Mr. Harrison Cripps.

R—Ext. conii, ... ℥ ij.
Olei ricini, ... f ℥ iij.
Ung. lanolini, . . . q. s. ad. ℥ ij.—M.

A small quantity of this ointment should be smeared over the parts five minutes before a passage, and again after it has occurred.

The various methods of treating anal fissure may be divided into the *palliative* and the *operative*.

Palliative Measures.—Palliative treatment will meet with success in cases in which the fissure is tolerably superficial and of somewhat recent origin, especially when there is no great hypertrophy of the sphincter muscles.

Allingham states that the curability of the lesion does not depend upon the length of time that it has existed, but rather upon the pathological changes it has wrought. This same authority states that he has cured fissure of months' standing by means of local applications when the ulcers were uncomplicated with polypi or hæmorrhoides, and when there was not marked spasm or thickening of the sphincters.

It is essential to the success of the treatment of fissure, especially by local applications, that rigid cleanliness of the parts be maintained; for this purpose the anus and the adjacent portions of the body should be carefully sponged night and morning, and after each stool, with hot or cold water, the temperature being regulated to suit the patient's comfort.

In applying the various local remedies it is necessary first to expose the ulcer to view, and to anæsthetize its surface with a four or eight per cent. solution of cocaine hydrochlorate, well brushed in with a camel's-hair pencil. The application may have to be repeated once or twice, at intervals of about five minutes, in order to obtain the desired anæsthetic effect.

If any ointment has been used about the fissure, the anus should be subjected to a hot water doche before using the cocaine, as cocaine will not exert its anæsthetic influence on a greasy surface.

Among the different remedies that have been used in the local treatment of fissure of the anus may be mentioned the following: Nitrate of silver, acid nitrate of mercury, fuming nitric acid, carbolic acid, sulphate of copper, the actual cautery, and chloral hydrate.

Of these topical applications the nitrate of silver is the best. Its effects are various; it lessens or entirely calms the nervous irritation, which is so important a factor in producing spasmodic contraction of the sphincters; it coats and shields the raw and exposed mucous surface by forming an insoluble albuminate of silver; it destroys the hard and callous edges of the ulcer, and tends to remove the diseased and morbid action of the parts.

The form in which the salt is usually employed is in solution (from ten to thirty grains to the ounce). The stick caustic may be also used. To accomplish the best results, the solution should be used once in twenty-four or forty-eight hours, according to circumstances. It may be applied by means of cotton attached to a silver prove or to a piece of wood.

The application is made by separating the margins of the anal orifice with the thumb and index finger of the left hand, and introducing into the anus the probe charged with the solution. The argentic nitrate is to be applied to the fissure only; a few drops are all that is required. If thorough local anæsthesia has been induced by the use of cocaine, the application of the silver salt produces

little, if any suffering, for by the time that the anæsthetic has lost its effect, the otherwise acute pain of the nitrate of silver will have passed away.

After each application the part should be smeared well with an ointment of iodoform (thirty grains to the ounce). The odor of that drug may be disguised by the addition of a few drops of the attar of roses. Iodol may be used instead and in the same way, but I prefer the iodoform, owing to its anæsthetic qualities. After the ulcer has been touched once or twice with the silver solution the effect will be, in the cases that are benefited by this treatment, a considerable mitigation of the pain from which the patient suffered when at the closet and afterward, and the sore will present a healthy, granulating appearance, and will slowly contract in size.

Some authorities speak highly of the use of acid nitrate of mercury, fuming nitric acid, carbolic acid, the actual cautery, etc., but their employment, with the single exception of carbolic acid, is attended with more suffering than follows the use of the nitrate of silver or the simple operative treatment presently to be described. Furthermore, the application of these remedies is not so certain to effect a cure as either of the two procedures just mentioned.

The daily introduction of a full-sized bougie made of wax or tallow, will sometimes act beneficially in cases of fissure by stretching the sphincter and producing such an amount of irritation as will set up a healing process in the ulcer. An application of cocaine or belladonna ointment should be made to the part previously to the employment of the bougie.

In children and young persons, unless a polypus or a polypoid growth, or a congenital contraction, complicates the fissure, it is almost always curable without operation. In children suffering from hereditary syphilis, numerous small cracks around the anus are common, and they cause much pain. Mercurial applications and extreme cleanliness soon cure them, but they will return from time to time unless anti-syphilitic medicines be taken for a lengthened period.

Operative Treatment.—If, after a fair trial of the simple measures that have been recommended, the fissure does not heal, or if, as described by Allingham, the base of the ulcer be gray and hard, and if on passing the finger into the bowel the sphincter be found hypertrophied and spasmodically contracted, feeling, as it often does, like a strong india-rubber band with the upper edge sharply defined, or if there should be a polypus, polypoid growth, or any other complication, local treatment will not effect a cure and operative interference will be rendered necessary.

There are three methods of repute to be considered in this connection; incision, forcible dilatation, and a combination of these two procedures, viz.: dilation and incision.

Incision.—A fissure can be cured by making an incision through the base of the ulcer and a little longer than the fissure itself, so as to sever all of the exposed nerve-filaments and muscular fires along the floor of the ulcer. In a certain proportion of cases this operation will meet with success, but it is not so certain and radical as the third method to be described.

It has the advantage over the other two operations, however, of being nearly or entirely painless under local anæsthesia produced by cocaine, and, therefore, when general anæsthesia is contra-indicated, or is refused by the patient, this method is worthy of trial.

Forcible Dilatation.—This is the operation recommended by Recamier, of Paris; Van Buren, of New York, and others.

It consists of the introduction of the thumbs into the bowel, back to back, and then forcibly separating them from each other until the sides of the bowel can be stretched as far out as the tuberosities of the ischia. It is well to place the ball of one thumb over the fissure and that of the other directly opposite to it, in order to prevent the fissure from being torn through and the mucous membrane stripped off. As pointed out by Allingham, it is well to repeat the stretching in other directions until the entire circumference of the anus has been gone over. In this manner, by careful and thorough kneading and pulling of the muscles the sphincters will be felt to give way, and will be rendered soft and pliable. This procedure should always be practiced with the patient thoroughly under the influence of an anæsthetic, and it should occupy at least five or six minutes. The operation is a perfectly safe one, but as it is no less severe than the method by incision, and as it fails to effect a cure in some cases, I can see no advantage in adopting it instead of the more satisfactory and always successful plan of treatment —combined dilatation and incision. It may be found preferable, however, in some cases on account of the prejudice of patients against the use of the knife.

Rapid forcible dilatation for the cure of fissure is a method now tried by some surgeons and *apparently* with a fair measure of success.

The patient is placed under the influence of nitrous oxid gas, and the sphincters are quickly stretched either by manual force or else with instrument power. For my part, I do not see how a satisfactory dilatation can be accomplished in this way. When the cure of fissure by dilatation is attempted under ether-anæsthesia—the muscular system being completely relaxed—the thorough paralysis of the sphincters occupies several minutes before they are felt to yield, and the strain

upon the operator's thumbs incident to the operation, becomes very tiresome, to say the least.

With anæsthesia produced by nitrous-oxide, we obtain a suspension of muscular action, but no general muscular relaxation; hence, to suspend the function of the sphincters to such a degree as to remove the cause which prevented the healing of the ulcer, viz.: the constant motion of the muscular fibres, we must exert a force which would be both detrimental and dangerous to our patient's welfare. Therefore, I cannot believe that this plan of treatment will be commended by the conservative surgeon.

Dilatation and Incision—This method I believe to be a radical and unfailing cure for anal fissure, if skillfully and carefully performed. The following are the details of the operation: The bowels should be thoroughly cleansed by the previous administration of a dose of castor oil and an injection; after which, under ether-anæsthesia, the sphincters should be dilated in the manner previously described. The resulting hyper-distention of the anus not only affords rest to the parts, by the temporary paralysis of the muscles, but also, as painted out by Van Buren, it stretches the sensory nerves of the anus, so that they cease for the time being to convey impressions, the result of irritation, to the nerve fibres exposed in the floor of the ulcer; in the same way that we find forcible stretching of the sciatic and the sensory branches of the fifth nerve, relieves neuralgia.

Mr. Charles B. Ball states that this theory of the temporary cessation of the function of the sensory nerves following the hyper-distension of the bowel receives considerable support from the fact which is frequently observed, that the first time the bowels move after the dilatation there is entire immunity from the pain which before was so severe.

The first step in the operation being accomplished—the dilatation of the sphincter—it will enable us to obtain a complete view of the lower end of the rectum and the exact limits of the ulcer. The fissure is now kept exposed by the fingers of the left hand, and a probe-pointed bistoury is drawn through its base, from within outward so as to incise the subjacent muscular fibres at right angles to their course. It is well to begin the incision a little above, and to end it a little below the ulcer, so as to insure its being carried quite through the sore.

Another method is that advocated by Mr. Syme, and is performed by transfixing the ulcer beneath its base with a small, sharp-pointed, curved bistoury, and cutting from without inward. This procedure endangers wounding the opposite side of the bowel unless it is protected.

The subcutaneous division of the sphincter, as recommended by some authorities, is not a satisfactory method, and is mentioned solely for the purpose of condemnation. It is not only uncertain in its results, but it is also painful, and in more than one instance has been followed by abscesses.

In cases in which the fissure is situated in the median line of the rectum, either anteriorly or posteriorly, care should be observed in making the incision, for the reason that wounds towards the coccyx split and separate the fibres of the external sphincter only, and are difficult to heal, while anatomical considerations will deter us from using the knife freely anteriorly; in the male from the bulb of the urethra being in close proximity, and in the female the shortness of the perineum, and the knowledge that division of the anterior fibres of the sphincter in women is so frequently followed by incontinence of feces.

After any of these the patient should keep the recumbent position, and it is better to confine the bowels with opium, at least for the first forty-eight hours. After three or four days a laxative, followed by an enema, may be given, from which time daily alvine movements should be secured. In seven or eight days the patient can begin to move about, but for at least two weeks he should avoid standing too long on the feet. No dressing is required, except a small quantity of iodoform, which should be dusted over the ulcer, and the parts should be bathed well with warm carbolized water, night and morning, to remove offensive discharges.

Peroxide of hydrogen (Marchand's) may be used instead of the carbolized water.

In the majority of cases of fissure, healing progresses with great rapidity, but occasionally, after the wound has healed to a certain extent, healthy action stops, and the appearances of an anal ulcer are again produced. Should this occur, it will generally be found that some complication has been overlooked, such as a fistulous passage running from the ulcer beneath the mucous membrane of the bowel.

The presence of such a passage might be suspected, if the discharge from the part is out of proportion to the size of the ulceration.

Another complication consists of a small hypertrophied tag of membrane, or polypoid growth, situated at the base of the fissure, or on some other portion of the rectal wall.

The removal of these complications will aid the patient's recovery.—Lewis H. Adler, M. D., in *Times and Reg.*

THE TREATMENT OF PUERPERAL FEVER.

Elevation of temperature during the puerperium is, strictly speaking, puerperal fever, although the term is usually understood as applying to fever having an infectious origin. Since the recognition

of the microbic origin of puerperal fever, some individuals have gone so far as to insist that all fevers occurring during this state are due to infection; but I am convinced that fever of a non-infectious character occurs during the lying-in period, due to trifling conditions, as constipation, emotion, mammary engorgement, etc. The correct interpretation of the nature of a fever in a puerperal patient is often a perplexing matter, and an immediate opinion cannot, in many instances, be given. If, however, after careful investigation the fever seems not to be dependent upon emotion or reflex irritation from any cause, a safe rule of practice is to conclude that it is of an infectious nature and must be treated accordingly.

The dividing line between judicious boldness and meddlesome interference is not always clearly defined in dealing with these conditions. If a dose of bromide and chloral to control nervous excitability, a dose of salts to clear the alimentary canal, or an application of lead-water and laudanum to an engorged breast, will reduce a fever, it is certainly unjustifiable as well as unscientific to direct attention exclusively to the genital tract upon the supposition that the fever is necessarily due to infection.

But it is equally unphilosophical, and vastly more injurious to the patient, for the doctor to try to convince himself that the fever is of a non-infectious character, simply because he fears to invade the parturient tract. How often it happens that, upon seeing a patient on the third to the fifth day after labor developing fever, although fearing sepsis, we instinctively cast about us for a possible explanation of the condition which will relieve our fears as to its dangerous nature.

The diagnosis of septic infection does not depend upon any special distinguishing symptom, but must be determined by a broad, comprehensive survey of each case. In many cases sepsis occurs in a most insidious manner, with a temperature not over 99° or occasionally a trifle below normal, with absence of abdominal tenderness, and with no noticeable change in the character of the lochia, nor evidence of any marked departure from the patient's usual standard of health, until after the process has been well inaugurated and a fatal termination is unavoidable.

But, as it is my intention to consider the methods of treatment particularly, we will not consume any time in a description of the disease, which, fortunately, is comparatively rare since the introduction of antiseptic midwifery.

The axiom that "Prevention is the best treatment," has no more forcible application than in this instance. When we contemplate the many cases reported, and the many others not reported, of death occurring in patients under constant observation—temperature and pulse-rate being taken at intervals of three or four hours—yet dying in spite of the most rigorous treatment in from one to three days after the first signs of poisoning appeared, the most skeptical will scarcely fail to see the value of prophylactic measures.

Without going too much into detail, I would advise that the accoucheur remove from himself (whether on his person or in his clothes) every possible source of infection at the time of delivery and during subsequent visits; that abdominal palpation be practiced more freely, and vaginal examinations be as few as possible; that no vaginal examination be made, either before or after delivery, without disinfection of hands; and that immediately after delivery of the placenta a vaginal douche of 1:1000 solution of bichloride of mercury be given, followed by a douche of boiled or distilled water. Instruments or hands, before being passed into the uterine cavity, must, of course, be subjected to rigid disinfection, preferably by the use of bichloride solution 1:1000 in strength, the hands having been previously scrubbed with soap and water, and the vagina douched with the bichloride solution. An intra-uterine douche should always be given if the uterine cavity has been invaded by instrument or hand. The solutions which may be used for this purpose are, of creolin, 2 per cent.; carbolic acid, 5 per cent.; thymol, 1:1000; or bichloride of mercury, 1:2000—followed in each case by a douche of distilled or boiled water. A quart of disinfectant solution should be used, and about half that quantity is sufficient for the clear-water douche.

Daily douching of the vagina during the puerperal state would not be necessary if we always had to deal with perfectly normal labors in healthy women; but as these conditions are so frequently absent, it is best to resort to the routine practice of giving the vaginal douche of bichloride of mercury, 1:2000, morning and evening.

A practical matter of importance in this connection is an inspection of the syringe to be used for this purpose. Unless this instrument be perfectly clean, we may readily impart poison and thwart the end we attempt to achieve.

Careful search should be made, just after delivery, for lesions of the vaginal canal and cervix uteri, and all extensive lacerations should immediately be repaired. Up to the present time, I have not operated upon the freshly torn tissues of the cervix, but believe that such a procedure is proper. While there is some force in the objection that immediate repair of the cervix tends to exhaust the patient just at a time when she needs repose, such an objection should not hold when we reflect that a laceration may be the source of an exhausting hæmorrhage or a breeding-ground for poison germs. If we are always prepared for such emergencies, the time element can be almost eliminated. Reports of the primary operation on the cervix are to the effect that union (despite the

lochia) takes place just as readily as it occurs in the primary operation on the perineum.

Failure on the part of a physician to immediately repair lesions of the vagina and perineum should be regarded as malpractice, for the evils resulting from a tear at this point are greater, so far as septic infection is concerned, and the *modus operandi* of repair much simpler, than in cases of cervical laceration. Anæsthesia is unnecessary in these operations. A pledget of absorbent cotton soaked in a 10-per-cent. solution of cocaine, packed into the lacerated parts, after thorough irrigation with bichloride solution, will benumb the tissues sufficiently to prevent acute pain. Sutures of catgut or silkworm-gut may be used for the cervix, while the same may be employed for the vaginal rents, with either silk or silver wire for the external perineal sutures.

The prophylactic measures advocated by Péraire seem to me to be not only unnecessary, but dangerous, except, possibly, in cases where we know that gonorrhœa has been recently contracted, or where the patient is exposed to a high degree of infection of any kind. Such measures consist in the taking of a vaginal douche, morning and evening, from the beginning of gestation, of a mild biniodide of mercury solution; the vulva is to be washed with soap and water and then covered with a pad of borated or salolized cotton. One death has been reported, attributed to the use of vaginal douches made of weak sublimate solutions; the douching had been employed for a week, when peritonitis developed, followed by abortion and death.

When, however, from neglect of precautionary measures, or in spite of them, puerperal infection has occurred, our plan of action should be well understood. I will not delay you with an attempt to show how septic infection may occur. I will simply say that my own views are opposed to the theory of "idiopathic puerperal fever," and that I believe the condition always arises from extraneous heterogeneous poisonous material, and, therefore, is preventable.

If we regard the vagina and uterus as the seat of purulent infection—the hot-bed of cultures of streptococci—the most rational plan of treatment is to dislodge and remove these germs and their ptomaines as thoroughly and as speedily as possible.

From a clinical standpoint, it is convenient to divide puerperal septicæmia into two classes: the first comprising those unfortunate cases in which the microbes have invaded the system and caused profound septic infection which resists all efforts to control; and the other class comprising those cases in which a comparatively small number of microbes, or only ptomaines, have been absorbed, and the infecting medium can be removed. It is not always possible at first to distinguish between the two classes, but the results of treatment speedily determine between the necessarily fatal and the curable cases.

The treatment consists in curettage of the endometrium, followed by copious disinfectant douching and swabbing. The details of the treatment are exceedingly important, as upon their observance the result largely depends. The instruments which I prefer are a sharp curette, tenaculum, bivalve speculum and speculum forceps, Kelly's or Lentz's uterine irrigating tube, and either an écouvillon or an applicator with absorbent cotton wrapped around it. Anæsthesia is not necessary, as the pain inflicted is trifling. After placing the patient in the the lithotomy position, and cleansing the external genitals and vagina with soap and water, followed by a 1:1000 bichloride of mercury solution, the speculum (which, with the other instruments, has been immersed in a 1:2000 sublimate solution) is introduced, and the vaginal walls and cervix uteri are examined for diphtheritic patches—and if any are found, as frequently happens, they are removed by the curette and their bases saturated with sublimate solution. The vagina being thus cleansed, the tenaculum is hooked into the cervix to steady the uterus, and the curette introduced and passed up to the fundus, starting with the scraping at a definite point and making a complete tour of the cavity, curetting down to the muscular tissue, which can readily be detected by both the tactile and aural senses. The French style this characteristic sound produced by the curette after removing the endometrium the "*cri utérin.*"

It is important to pass the curette well into each cornua and thoroughly detach any irregular prominences, and also to pay special attention to the region of the internal os. I have found fragments of placenta and membranes to adhere very closely to these portions of the uterine cavity, and they can more readily escape detection in these localities.

Some French surgeons have recently urged the use of a special form of curette for the purpose of more easily and more thoroughly scraping the orifices of the fallopian tubes. While delicacy in the use of the curette is imperative, boldness is equally required, and unless the curettage accomplishes the detachment of adherent masses and shreds it fails in its purpose and had better be omitted. For this reason I prefer the sharp to the dull instrument, and rarely resort to the latter.

After the curettage, the *débris* and blood are mopped out of the speculum, and the intra-uterine tube is passed into the uterus and pressed up to the fundus. The syringe being attached to one end, inject a quart of a 1:2000 sublimate solution, followed by a distilled or boiled-water injection, which passes out of the return tube and is conveyed into a receptacle on the floor by the bed.

If the return stream is clear, the douching apparatus is withdrawn, also bringing with it some shreds and blood clots not removed by the curette. The écouvillon or swab, dipped into sublimate solution, is now introduced and swept over the entire uterine cavity with the intention of brushing out any fragments which may have been scraped off the uterine wall by the curette but not washed out by the irrigation.

It is the custom of some surgeons to introduce, after this, a pencil of iodoform or pack a strip of iodoformed gauze into the cervix and vagina; but this is not necessary.

The entire operation can be completed in about fifteen minutes. Hæmorrhage is rarely profuse, and can be checked promptly by thorough curetting or by packing the uterine cavity with a strip of iodoformed gauze. No serious conditions have been reported as being dependent upon curettage. Patients occasionally have slight pelvic pain for a day, but as a rule the temperature falls and improvement is noticeable almost immediately.

The plan usually advised is to employ the curette only after irrigation has been tried and found to be insufficient, but experience has caused me to pursue the above plan, as I believe that curetting properly done cannot cause damage nor add to the risks; and as the instrument has to be employed oftentimes after douching alone has failed, it might as well be used at the beginning and thus give the patient a better chance by making the first treatment effective and curative. Septic infection frequently progresses with alarming rapidity, and twenty-four hours can easily turn the balance against the patient.

I recently saw, in consultation, a case of puerperal septicæmia which illustrates the value of preceding irrigation by curettage. At the time of my first visit the temperature was moderately high, pulse rapid, tongue furred, and skin clammy. Insomnia, anorexia, anxiety, and general weakness were increasing. There was no evidence of peritonitis. Irrigation of the uterus was promptly done, and a large collection of putrid matter, looking like mud mixed with coal dust, and very offensive, was washed away. When all odor had disappeared and the return water was clear, the irrigation was suspended and patient put to bed. She soon fell into a refreshing sleep, with amelioration of all her symptoms for about six or eight hours. Twenty-four hours later I was again asked to see the patient, as her condition had grown worse than at first. I now introduced the curette, and was surprised to remove a number of fragments of placental and membranous tissue in an advanced state of decomposition. The pieces were small, but fetid, although the lochia had lost their offensive odor since the previous irrigation, and even the secretions of the cervical canal, as withdrawn on a swab, were almost odorless. This fact would seem to indicate that it is not safe always to conclude that septic infection is not taking place if the lochia fail to be fetid, for some decomposing fragments near the fundus may be the source of infection and yet fail to indicate their presence by an offensive discharge.

This plan of treatment is, of course, chiefly applicable to cases of septic endometritis, and is useless when profound general sepsis has occurred. That curetting can thoroughly remove fragments from the uterine cavity, has been proved by autopsies.

The objections used against curettage are, first, the difficulty of making, at the beginning, a differential diagnosis between sapræmic and streptococcic infection. To this objection we may safely apply the rule: When in doubt, curette.

The second objection—which has been forcibly put by Fritsch—is, that the seat of infection is not in the decidua nor in the contents of the womb, but rather in the parametrium, as the result of microbic absorption from the lacerated tissues of the cervix. That some cases of puerperal infection occur in this manner, there can be no doubt; but it is certainly short-sighted to fail to see other sources of poison in the parturient tract.

In the case referred to above, there was a badly lacerated cervix, which was covered with a diphtheritic membrane; this diphtheritic formation was removed at the first, when the uterine cavity was irrigated, and the underlying tissue was thoroughly mopped with strong sublimate solution. But while this treatment removed that one patch of poison, and the cervix remained healthy afterwards, there was another seat of infection near the fundus of the uterus, which was scraped away next day by the curette.

In those cases which are not seen until after the poison has invaded the deeper or peri-uterine structure, it is obviously foolish to confine the treatment to scraping and douching the uterine cavity. In such cases incisions through the vagina into the parametrium, or cœliotomy, will effect a removal of the purulent collection.

The third objection to the use of the curette is the danger of perforating the womb. To obviate this disaster, some surgeons advocate the use of the dull curette; for reasons previously stated, I prefer the sharp instrument, but admit that it is dangerous in the hands of those unaccustomed to its use. The uterus is usually hard and firm enough immediately after labor or at any time during the puerperium for this style of treatment.

When curettage and irrigation fail to relieve the symptoms inside of forty-eight hours, it is safe to conclude that the poison has invaded deeper tissues, and other measures of treatment must be instituted. If peritonitis has developed, or we suspect a collection of pus in the pelvis, an exploratory incision through the abdomen should be

made and the appendages and surrounding tissues examined. If there is a parametric abscess it should be removed by the aspirator or some other means better adapted to the individual case; the pelvis well irrigated with distilled water; and drainage used or not, according to circumstances.

A case of incipient puerperal peritonitis was recently reported by Lapthorn Smith, in which a successful result followed hysterectomy, after douching and other paliative measures had failed to reduce temperature and improve other symptoms. In this case the temperature had ranged between 104° and 105° before the operation, but fell to normal on the fourth day after removal of the womb. The stump was treated by the extra-peritoneal method, covered by boracic acid, and turned back on the twelfth day. No drainage was employed, and the convalescence was uninterrupted.

Hysterectomy, both by the vaginal and by the supravaginal method, has been performed for this condition on several other occasions. Removal of the uterine appendages alone would never be justifiable in puerperal septicæmia, as the infection of the tubes would be secondary to the uterine infection.

Just when to cease curettage and irrigation and resort to bolder measures, is in some cases a most difficult problem to solve. The plan of action has been summarized by Smith in the report above referred to, as follows: Daily records of the temperature of confinement cases should be taken, and upon the first rise of temperature a vaginal douche should be given. If the temperature does not fall speedily, the douche must be made intra-uterine. If no improvement occurs in twenty-four hours, curette, irrigate, and apply tincture of iodine to the cavity of the uterus. If these measures fail and peritonitis develops, perform an exploratory incision; and if there is no other evident source of infection, remove the uterus.

Although hysterectomy is a dangerous operation, its mortality record is steadily decreasing as experience grows, and it is certainly far better to extend to patients the benefits of such an operation than allow them to die without this chance, unless the proofs of general septic infection are indubitable.

The treatment of puerperal septicæmia would be incomplete without the employment of general sustaining and tonic measures. The free exhibition of stimulants with iron, quinia, and strychnia must be rigidly enforced. Free purgation must be speedily induced upon the first indication of peritoneal inflammation. But no reliance should be placed in medication with antipyrin, salol, or any other antipyretic or antiseptic drug when it is possible to locate and mechanically remove the seat of poison.—Dr Carey, in *Am. Lancet.*

ADENOID VEGETATIONS OF THE NASO-PHARYNX.

Sir Morell Mackenzie defines this trouble as "minute glandular vegetations growing from the vault and sides of the naso-pharynx, causing the voice to be dull and nasal in tone, the respiration to be buccal, frequently inducing deafness by setting up inflammation of the middle ear, and, in the case of children, often giving rise to the constitutional phenomena which follow prolonged nasal obstruction." I have selected this subject for a paper before this society, composed largely of practitioners of general medicine and surgery, because it is one of great importance not only to the rhino-laryngologist, but to every member of the medical profession. We look around us, and upon every side we see patients who have suffered, during a lifetime, from adenoid vegetations in the naso-pharynx. When I meet these patients on the streets, a single glance being sufficient to diagnose the pathological condition, I often wonder why the general practitioner is not more interested in these cases. I can account for it only upon the fact that their attention has not been called to the well-known conditions produced by this mass of pathological product in the vault of the pharynx.

Probably the first adenoid growths ever seen were those observed by Czermak in 1860, who described them as small tumors at the upper part of the naso-pharynx, which resembled a "cock's comb." In 1865 Sir Andrew Clark, Voltolini, and Lowenberg recognized and published reports of cases. But it was not until 1868 that Meyer, of Copenhagen, gave a complete account of granular disease in the pharyngeal region under the name of "adenoid vegetation." He fully described the symptoms and progress of the affection, and gave a mode of surgical treatment, which has been but slightly modified up to the present time. He was not the first to discover adenoid vegetations, but he was the first to realize their importance and fully describe them. Meyer had at that time (1868) examined two thousand children in the National School of Copenhagen, and had met with the affection in one per cent. of the cases examined. Since Meyer's time numerous writers and observers have furnished important contributions on the same subject, which have fully confirmed his original deductions. This condition is frequently spoken of as a hypertrophy, a hyperplasia, or enlargement of the pharyngeal tonsil, or, as it is sometimes called, "Luschka's tonsil." At the back of the pharynx, near the base of the skull in the normal condition, we find a thickening of the mucous membrane amounting to the one-tenth of an inch. Luschka calls this thickening a tonsil, because it resembles in structure the so-called tonsils of the fauces. This so-called pharyngeal

tonsil is composed of simple and compound follicular glands, and is simply a folding in of mucous membrane, a duplication and reduplication of normal mucous membrane; on the surface there are small prominences and numerous depressions and crypts.

Of the function of this glandular structure we know but little. We do know that when it becomes enlarged and has been removed there is no loss of function that we are able to detect.

The enlargement of this tonsillar structure frequently takes place. We generally find it in children. It is seldom developed after thirty years of age. It occurs in children more frequently than in adults, for the same reason that all glandular structures in children are more prone to take on morbid changes. Heredity seems to have some influence, as we frequently find several children in the same family with adenoid vegetations. Pathologically we would be interested in knowing whether this enlargement is a true hypertrophy or hyperlastic in its nature, or whether it be papilomatous in its character. But clinically this makes but little difference, as the symptoms and treatment would be the same in either case. Numerous causes are given for its growth,—a debilitated constitution, scrofulosis, nasal and naso pharyngeal catarrh, etc.,

In mild cases there is only a slight enlargement, with such symptoms as we have in naso-pharyngeal catarrh, except more aggravated in its form. From this slight thickening we have it increasing until it fills the entire naso-pharynx, and in some cases protrudes into the fauces, producing complete obstruction to the pharynx, preventing nasal respiration and compelling mouth-breathing. The symptoms of adenoid vegetation will, of course, depend upon the amount of obstruction produced. Nature designed that the naso-pharynx should be free, and serve as a means of communication between the five openings which enter it. Among the most common symptoms we have deafness, either slight or very marked, and one that is liable to become permanent, unless relief is afforded.

The openings of the Eustachian tubes are situated at the upper portion of the lateral walls of the pharynx, and are only separated from the pharyngeal tonsil by a small groove, called the fossa of Rosemüller. Deafness is produced by the enlargement pressing upon and obstructing the opening of these tubes, and a secondary inflammation follows. Adenoid vegetations stop up the posterior nasal openings according to the degree of the growth, causing mouth-breathing. Nature intended the nose as a preparatory department to respiration. Inspired air is freed from dust and germs and receives its proper amount of moisture, and is raised or lowered to the proper temperature by passing through the nose. Even if the nasal cavities are in a normal condition nasal respiration cannot take place, on account of the plugging up of the naso-pharynx. The muscles of the growing child become distorted by constantly keeping the mouth open day and night. The action of these distorted muscles upon the soft and pliable bone of the child's face, together with the absence of admission of air to the accessory nasal cavities,—the frontal, sphenoidal, ethmoidal, and maxillaries.—causes a deficient development of of these sinuses, giving a flat appearance to the cheek-bones, producing a peculiar physiognomy characterized by the open mouth, vacant store, and almost idiotic expression of countenance. The hanging lower jaw and constant mouth-breathing, together with deficient development of the bones constituting the nasal septum and with augmented atmospheric pressure upon the roof of the mouth, cause a high-arched hard palate. A narrow lower jaw, with protrusion of the front teeth, is usually associated with long-continued and excessive adenoid vegetation at the vault of the pharynx in growing children. The non-use of the muscles of the wing of the nose prevents their complete development, so that the nose is either flat or pinched, or its alæ are distended; the muscles acting upon the corners of the mouth and eyes give them a drawn, contracted appearance.

Dr. Casselburry, of Chicago, says, "Not only do these unfortunates *look stupid*, but they really *are stupid*, and exhibit abundant evidence of mental hebetude, with inability to fix the attention to learn, to memorize, or to reason, the whole evidencing an impairment or cerebral function which Dr. Guye, of Amsterdam, has recently described under the name of 'aprosexia nasales.' Indeed, we hold it not illogical to believe that in extreme cases of long duration, associated, perhaps, with deafness. such alteration of cerebral function might ensue as to result in absolute idiocy."

My observation has been that children with adenoid vegetation are usually as bright intellectually as other children, and that the dulness is only apparent, on account of the deafness and stupid expression of countenance, which are relieved by operation. In infants the first symptom to attract attention is, as a rule, "hard" breathing or snoring during sleep, sometimes producing attacks of dyspnœa, resulting in enlargement of the lungs. These attacks frequently resemble spasmodic croup, or may even be mistaken for laryngitis. In explanation of this it is a well-known fact that the mouth in infants is almost always closed during sleep, and that the tongue is brought in contact with the hard palate, and that even in those rare cases where the lips are open no air passes through the mouth. As the air cannot pass through the nostril we have an explanation of the cause of these troubles. In older children it is the dull voice and deafness which generally attract our attention. A chronic catarrhal condition exists, a

yellowish-green secretion may be seen trickling down the back wall of the pharynx. In some cases we have asthma. In cases of long standing we frequently have deformity, such as "pigeon breast," "barrel-shaped chest," and "flat chest." Time will not permit me to speak of the "dead" voice of Meyer, nor of the effect of adenoid vegetation at the vault of the pharynx upon the singing voice. These are of the greatest importance and will be the subject of another paper.

If you will but think of some children in families under your care you can call to mind children that have an anæmic appearance, stupid expression, drooping eyelids with the corners drawn, open and distorted mouth, projecting teeth, arched palate, pinched nostrils, the frog-nose, and the deformed chest, with mental dulness, loss of hearing, and nasal obstruction, with all their distressing symptoms.

By means of posterior rhinoscopy we are able to examine these growths. They are seen to partly or completely cover the posterior nares. They are generally of a pale color, but are sometimes pink, and even bright-red. As a rule, they are rounded in form and vary in size from a hempseed to a bean, but are occasionally much larger, and often occur in clusters. In some cases they hang down from the vault and back of the pharynx like stalactites; sometimes they are flat, like the granulations often seen on the posterior walls of the oro-pharynx; in some cases they resemble a cushion, extending from the posterior nares along the roof and upper part of the naso-pharynx to within a short distance above the level of the soft palate, with an irregular surface, produced by deep crypts and depressions. In other cases the surface will be smooth and regular. In cases where it is impossible to use the rhinoscope, as in very young children and in refractory ones of older years, we have to depend upon the sense of touch; by passing the index finger behind the uvula the growth can generally be easily felt, when they are found to be smooth, soft, and yielding to the touch, and prone to bleed. The sensation communicated to the finger is very much like that produced by placing the finger in a mass of earthworms, the sensation of touch being in great contrast to the feel of the smooth, regular, and firm surface of the naso-pharynx.

Treatment.—In mild cases of adenoid vegetation of the naso-pharynx alterative and tonic medication, with local applications of antiseptics and astringents, in connection with good hygiene, will sometimes do much to relieve them. In the great majority of cases it will be necessary to resort to more active treatment. Surgery must come to the rescue in these cases. It gives us immediate, certain, and radical cure. They may be destroyed in some cases by the application of chromic or trichloracetic acids, but as these acids are apt to deliquesce and run down the throat, sometimes down to the larynx and do damage to those parts, I seldom use them except in cases in which there is but slight thickening of the membrane. An application of sixty grains of sulphate of copper to the ounce of water will give relief in mild cases. By some operators the electro-cautery is used. As there are a number of objections to its use, I seldom use it in these cases. Rumbold grasps the growth with naso-pharyngeal forceps and produces pressure, but not sufficient to lacerate the parts; by this method absorption is promoted. Others grasp the growth with the naso-pharyngeal forceps and tear it off.

Instead of giving the methods of each operation. I will give the methods I resort to in these cases. In some cases, especially adults, I prefer operating without anæsthetics. This can be done without much pain if the parts are thoroughly cocainized. But in cases of children and very nervous patients I use an anæsthetic. The operation is a bloody one, and it is horrifying to a highly-sensitive child to hold them by main force, pry open the mouth, and force instruments into the naso-pharynx. All this can be avoided by general anæsthesia, which gives time for a thorough examination and operation. After the child has been anæsthethized he should be held in the lap of an assistant, facing a good light. Then the mouth-gag should be introduced and managed by a second assistant, who stand behind the patient and steadies the head. As the soft palate is in the way, we have to use a palate-retractor. A number of these have been devised, but I prefer a piece of small rubber-tubing introduced through both nostrils, grasping the the ends with forceps as they appear in the oro-pharynx, pull forward and tie the ends back of the head. This method pulls forward the palate on either side, and gives plenty of room for examination and treatment. It cannot become displaced, and can do no injury to the parts. Now the operator places himself in front of the patient, introdues his index finger into the naso-pharynx, and makes a thorough examination of the cavity, as well as the character and extent of the growth.

In some cases the vegetation is so soft and frail that the entire mass can be removed with the finger-nail, or with a spoon-attachment placed over the end of the finger. If I find it too firm to remove in this way, I introduce Gradle's post-nasal cutting forceps, with which I cut away portions of it without producing the slightest injury to the surrounding parts. After removing all I can with this instrument, I use Bishop's modification of Bocker's curette, having various sizes and shapes; with this instrument you can remove every portion of the growth and leave the membrane smooth. Plenty of blood will flow during the operation, which should be pushed as rapidly as possible, as bleeding soon ceases after completing operation.

After the operation the child should be kept quiet, or in bed, if possible, for a few days, until all the surgical condition has passed off. It is best to remove all the growth at one sitting. This can be ascertained by the introduction of the finger. The curette should be used till the surface feels smooth and firm. If small portions remain they are very readily absorbed by the application of the sulphate of copher solution before mentioned. A second operation is seldom required, but if the growth returns it should be removed again.

Some operators only remove a small portion at each sitting, introducing the post-nasal forceps once every third or fourth day. The administration of the syrup of iodide of iron, in fifteen to thirty-drop doses three times each day, seems to benefit these cases, especially anæmic ones.

Is it right to let these patients go through life with loss of hearing and the deformities of face and chest, and with the other inconveniences and dangers of mouth-breathing, when such a simple operation will give entire relief?—an operation devoid of danger. After such an operation in a child nature will restore the deformity in most cases. The cause being removed, nature has a chance to do her work. In some cases the habit of mouth-breathing has become so persistent that when the patient falls asleep the mouth will open. This can be corrected by placing a bandage under the chin, and another aeound the forehead, fastened to the first bandage at the side of the head.—Dr. North in *Inter. Med. Mag.*

SYMPHYSIOTOMY.

Not only in the line of patriotism have the events of the present season suggested the part Italy has played in the world's history, but the rise or rather revival of an obstetrical operation has called attention to her contributions to medical science.

Symphysiotomy is not a new procedure. Previous to 1860 it was done with disheartening results. Suggested by Pineau in 1598, and first practised upon the living female in 1777, it was performed eighty-five times up to 1858 with a mortality of about thirty-three per cent. After the latter date it fell in abeyance, and was not revived till 1866, when Morisani of Naples reintroduced the operation, and while his pioneer work has perhaps been surpassed by the brilliant results of other workers, and in more recent years, he still lives to witness the results of his earlier labors.

It is to that Nester of midwifery-statistics, Dr. Robert P. Harris, of Philadelphia, that we are indebted for a concise summary of what has already been accomplished in this direction. In a recent paper before the American Gynæcological Society (see *Phil. Med. News*, Oct. 8, 1892, page 416), he relates that of the first forty cases, from 1777 to 1804, twenty-five women recovered and fifteen died; of the children twelve were saved and twenty-eight lost. The results of a second series of about the same number of cases were practically the same.

In 1863 Morisani commenced his work, and after three years of practise upon the cadaver, was successful in 1866 in saving both mother and child in his first case. Other operators entered the field and up to 1886 eight women and five children were lost in eighteen cases. Since 1886 thirteen operators had delivered forty women in this manner, six of the women enduring two operations with success and thirty-five of the forty children were saved.

The operation has undoubtedly a great future, and it remains for us to carefully study both its limitations and technique. According to Charpentier it is applicable to and indicated in contracted pelvis, not sufficiently deformed to forbid version or the use of the forceps. We should have a true conjugate diameter of from two and three-fourth to three and a third inches. Here, after the artificial induction of labor, we have a choice between version, the forceps, and symphysiotomy. Spinelli had the remarkable result of recovery of the mothers in all of twenty-four operations, and the loss of only a single child. Antiseptic precautions were carefully employed, the cutaneous incision was closed with cat-gut, and dressed with bichloride gauze. After delivery the patient had daily three vaginal douches of solution of mercuric chloride, at first from one to two thousand, afterward one to four thousand. The pubic joint was usually firmly united in from four to six weeks. During that time the patient remained in bed, wearing a firm bandage about the pelvis. No case of permanent non-union is reported, the joint, as a rule, becoming strongly knit together.

The list of operators has now become quite large. In addition to those named above it includes Tarnier and Porak of France; Freund and Leopold of Germany, and Jewett, Hirst, and Broomall of Philadelphia, the latter a woman. During the last two years then, there have been thirty-four operations done in Italy, France, Germany, and America. As far as is known all the mothers have been saved and but two children lost.

Dr. Harris traces, with his accustomed clearness, the causes which have led to such brilliant success. He finds them largely in rigid antisepsis, and in the employment of subcutaneous section. As a result there is an absence of the dreadful lameness which was once urged against the procedure, the symphysis being readily made to reunite firmly under proper fixation of the pelvis.

It is true that in four instances there was produced a fistula of the bladder or urethra, which Morisani claimed should not occur under proper precautions.

Harris does not regard the operation as applicable on a Robert's or Naegeli's pelvis, or in one where anchylosis has resulted from hip disease. Cervical cancer and obstructions from exostoses, tumors, etc., are also contra-indications. In the living woman two and one half inches of separation are a safe average, and this amount can very rarely be exceeded with safety.

There will be a difference in opinion as to how far symphysiotomy can supplant other obstetrical procedures. Hirst says (*Phil. Med. News*, Oct. 15, 1892): "It is applicable in contracted pelves with a conjugate over sixty-seven *mm.*, and, therefore, should be the method employed in almost all cases of the kind in the country, for a greater contraction of the pelvis is rarely seen among us. It should, moreover, almost entirely displace the Cæsarean section for a relative indication. It is a much simpler, an easier, and a safer operation. This is also the opinion of Leopold, who cannot be accused of prejudice against Cæsarian section, with his brilliant record in that field."

Harris *(loc. cit.)* has considered the question of choice between the three incisive methods of delivery in cases of contracted pelvis: the improved Cæsarean, the Porro-Cæsarean, and symphysiotomy and gives the technique of the latter. Obstetric surgeons are likely to prefer the improved Cæsarean section, especially as it is possible, under most favorable circumstances, to reduce the maternal mortality to six per cent.

On the other hand the preference of abdominal surgeons who are "successful in the Cæsarian operation will remain in favor of that procedure in contrast with symphysiotomy. The greatest need in obstetric surgery, at present, is some method of procedure by which labor can be successfully terminated in contracted pelves without destroying the life of mother or child, a method available amid the surroundings of ordinary obstetric practice. In a well-appointed hospital, or with the co-operation of one or two intelligent colleagues, the Cæsarean operation will always give brilliant results, but if symphysiotomy in connection with induced labor, version, and the use of forceps, shall prove a resource which the individual practitioner of obstetrics can employ unassisted by professional help, it certainly will find a field of usefulness. It seems applicable to ust those cases in which it is often difficult to ecide that an abdominal delivery is absolutely necessary."

Hirst (*loc. cit.*) describes the technique of the operation as follows: "The technique of symphysiotomy is simple and easy. After thoroughly cleansing the field of operation and disinfecting the vagina as well, a short vertical incision is made on the abdominal wall, reaching to about three quarters of an inch above the symphysis. The attachments of the recti muscles are severed just sufficiently to admit one finger. The forefinger of the left hand is passed under the symphysis, and upon this as a guide the curved knife of Galbiati is inserted until its beak projects under and in front of the symphysis. The joint is then cut upward and outward. To avoid injury to the urethra, a metal catheter is inserted and pressed by an assistant downward and a little to the right, while the knife is placed a little to the left; but with Galbiati's knife I should think that there is little likelihood of cutting the urethra or the plexus of veins in its neighborhood. I at first thought that an ordinary probe-pointed, curved bistoury would serve my purpose well enough, but I quickly laid it aside, and was glad to avail myself of Galbiati's knife, at the time one of the three, I believe, in the country.

"As soon as the joint has been severed, the wound should be covered with iodoform-gauze, and then the child extracted with forceps, or allowed to be delivered naturally, as seems best in the individual case. I should, I think, almost always prefer the forceps. It is well to have the trochanters supported by assistants during the passage of the child through the pelvis, so that the sacro-iliac joints shall not be injured.

"As soon as the delivery is completed the wound is sewed up, the lowest stitch, if desired, passing through the top of the symphysis. How the whole symphysis can be stitched up, as Leopold claims to have done, I do not understand. After closing the wound and dressing it, rubber adhensive strips are placed around the hips and lower abdomen, and a tight binder applied. The symphysis unites surprisingly, and three weeks after the operation the patient can walk as firmly and as well as ever."

Already a discussion has begun on the proper name for the operation. Forbes of Philadelphia (*Med. News*, Oct. 20th), says:

"The cutting of the junction of the two pubic bones, I humbly submit, should be called *pobeotomy*. This operation is now performed for the purpose of widening the pelvic diameter, thereby accomplishing, in certain cases of difficult labor, a safe delivery to both mother and child, as has been of late so well and so frequently demonstrated.

"Now, *symphysiotomy* is a term that may be applied to any symphysis, and we have several of them in the human body: thus, the saco-iliac symphysis is not far from the symphysis of the pubes.

"The name pubeotomy is illuminating; it is restricting in its meaning to the part cut; it is euphonic and in strict keeping wiht a proper scientific nomenclature."—*Epitome of Med.*

FEEDING IN FEVERS.

In opening the discussion this evening, I wish to say that I am here to learn rather than to teach, and to find out from my colleagues who are present whether they do not think that it is common in practice to-day to adhere too rigidly to older methods in feeding fever patients. I refer not only to the continued fevers, but to the eruptive fevers and those that occur with many varieties of inflammations. In following other physicians in the hospitals to which I am attached, *i.e.*, in succeeding them in attendance each year when my term of duty begins, I always find a certain number of fever patients, and I usually find that they are allowed only fluid foods. Of these foods milk is the most important. Milk seems to be generally regarded as a fluid, and a very harmless-looking fluid it certainly is when it *is* put into the stomach; but if it is to be digested and assimilated at all, it is very soon transformed into a bulky solid after it reaches the stomach.

There are many patients to whom milk in any form is repugnant, and to some of these it is exceedingly difficult of digestion. It has been my practice for many years, in all kinds of illness, but especially in the presence of fever, to pay regard to the appetite and desire of the patient. If a patient is really hungry solid food of a properly selected kind and in judicious quantity will rarely disagree with him. With hospital patients it is not always easy to ascertain whether they are really hungry. Many will profess hunger without being hungry because they suppose that they will recover more quickly if they eat freely. To them, of course, other solid food than milk should not be given, but if they are genuinely hungry I believe it is safe to presume that the stomach is prepared again to resume its function, that gastric juice is again secreted, and that properly selected albuminous food in judicious quantity will be digested if you give it.

We are accustomed, I think, to have too great a dread of doing harm at the site of lesion in the ileum in typhoid fever by giving solid food. If I am correct in my opinion as to the inference to be drawn from hunger in a fever patient, there is even less likelihood of causing damage to an ulcerated ileum by giving finely divided egg or beef or chop to such a patient than by giving him milk; and my experience seems to justify the inference. It has been my practice for years to allow albuminous foods of these descriptions to such patients, even before the fever leaves them, under these conditions. I have at present under treatment several patients with typhoid fever whose temperatures reach 101°, 102°, and 103° F., daily, who are hungry, and who are receiving such solid food once a day. So far as I am aware I do not have a larger percentage of relapses or hemorrhages or other serious complications or accidents in my practice than I did before I adopted this plan, or than my colleagues do who have not yet adopted it.

Even tea and coffee and beer are not allowed by many doctors; in my hands they have been very useful when given to those who have been accustomed to them in health and desire them in fevers. Well-cooked oatmeal is another very nutritious food that I allow under the same conditions as meat.

When the appetite fails, in consequence of the presence of fever, meat becomes more repugnant than any other food as a rule. Then it would be most injudicious to force it upon a patient; but the returning appetite, the awakening desire for meat, I believe to be nearly always an indication that the stomach is prepared to take care of it. That much is gained by maintaining the nutrition of fever patients needs not to be mentioned to the members of this Society. Of course, the necessity of giving an abundance of water is not to be lost sight of.

What I have said of feeding typhoid-fever patients is equally true in other forms of fever. It is, in my judgment, a mistake to withhold solid food merely because a patient has fever, and it is incorrect to regard milk as a fluid food, as our knowledge of the physiology of digestion teaches us. Our knowledge of the form in which milk often appears in the fæces emphasizes this latter fact. Milk will always remain the most serviceable general food in disease, and especially in fever, largely because it is swallowed with much less effort than attends the taking of other foods; because it is the cheapest of the foods; because it requires little or no preparation, and because it is so commonly well borne. But where it fails to nourish the patient, where it is not well borne, where it cannot be taken, for any reason, it is well to remember that efficient adjuncts and substitutes are within reach.—*Geo. L. Peabody, in Medical Record.*

SICK-ROOM DIETETICS.

It is rarely easy, and almost always very difficult, to persuade the sick to take nourishment in sufficient quantity; and the successful nurse must be rich in expedients. Her pursuasive power must be great. She must be patient, and yet firmly persistent, until her whole duty is done. There are certain general rules for her to observe. A few of them we will give. All foods for the sick should be of the very best quality, well cooked, palatably seasoned, and attractively served. A savory dish will always sharpen the appetite of one in health; and it must have a stimulating in-

fluence upon a debilitated patient, to whom the flat and insipid preparations usually offered are loathsome and even nauseating.

Surprise is frequently a useful element in the dietetic treatment of the sick. Something unexpected will often be acceptable, when, were the patient consulted and advised of what was being prepared for him, it would take away all appetite for it. Cooking in the sick-room is, of course, always forbidden; nor should the smell of food be allowed to reach the patient if it is possible to prevent it. Absolute neatness in the serving of food is a prime consideration. There is more to the patient in clean napkins, spotless china, etc., than many think. A slovenly nurse is out of place anywhere. If the doctor directs that certain foods should be given hot, he means that they should be hot, and not merely warm, in which condition some are very insipid.

Occasionally one sees the nurse tasting the food in the presence of the patient,—a most unpardonable habit. No more food should be at one time taken into the sick-room than is likely to be eaten, and whatever is not should be at once removed. Nurses often leave it in sight, in the hope that the patient may want it a little later; but almost invariably they are disappointed. It is quite a common thing for the physician to find milk in a glass or pitcher standing near the bedside of his patient; and often the appearance of the glass is such that even a person with the strongest kind of a stomach would not care to drink from it. Of all foods, milk probably takes up impurities the easiest. Hence to keep it exposed to the air of a sick-room or any other bad air is simply to render it unfit for use. A nurse with anything approaching neatness would never allow a glass which has held milk to be used a second time without careful washing and rinsing. Some consult their own convenience altogether too much in feeding the sick.

Food ought to be given at regular intervals, when possible. If given punctually at fixed hours, a habit not only of taking, but of digesting it, will soon be acquired; for our most automatic functions are influenced by custom. In this connection there is a rule which nurses should never violate. It is that of keeping for the physician an accurate record of the quantity of food taken at each feeding. As to whether or not a patient should be aroused from sleep for food depends upon the disease from which he suffers, and upon his condition. The physician, of course, must advise. As a general rule, it is not best to awaken a patient for the purpose of feeding except in desperate cases. In feeding helpless patients, the food must be given slowly, and in quantities easily disposed of. See that each morsel be swallowed before another is given. A drinking tube is always of great assistance; and it is better to use that, when possible, than the spoon, not only for the reason of convenience to the nurse and comfort to the patient, but because he will often take larger quantities in this way than he can be induced to in any other. Drying the lips and the corners of the mouth after feeding is a necessary precaution against sore lips, which not infrequently result from want of this little care.—*The Trained Nurse.*

MEDICAL NOTES.

Prof. Hare recommends aconite in cases of *Hypertrophy of the Heart.*

Prof. Keen favors the opening of a *Felon* with the knife as soon as possible for the surgeon to do so.

Arsenic is recommended by Prof. Hare in cases of *Anæmia* due to a reduction in the amount o hæmoglobin in the blood.

Prof. Hare says that in cases where digitalis will have no effect, and is indicated, the administration of *Adonidine* will often give good results.

Prof. Wilson says that in cases of *Gouty Rheumatism* the anti-rheumatics yield poor results. Blistering will not be of any value for permanent relief, but may give temporary relief. He advises the administration of cod-liver oil in the earlier stages, but not in the later. In the later stages he prescribes some arsenical preparation, preferably Donovan's solution, beginning with five drops three times a day, increasing one drop every other day, until the physiological effects of the drug are experienced.

Prof. Wilson, in cases of *Lead Poisoning* recommends the following treatment: A laxative dose of the sulphate of magnesium every day and ten grains of the iodide of potassium three times a day.

Prof. Wilson says that *when the temperature is taken in the groin*, $\frac{1}{2}°$ should be added. He also favors the taking of the temperature in the axillary space, rather than in the mouth, as being the more accurate method of determining it.

Prof Wilson, in the earlier stages of *Influenza*, prescribes antipyretics, but in the later stages he orders quinine to be given. He especially recommends turpene hydrate as an efficient and useful expectorating agent in this disease.

Good results have been obtained in cases of *Whooping Cough*, treated by Prof. Hare, by administering one or two grains of antipyrine every hour in children. It tends to decrease the number of coughing spells.

In puncturing the chest on account of an

accumulation of pus in cases of *Empyema*, Prof. Keen recommends that it be done no lower than the eighth or ninth intercostal space. If the operation be done lower than this, there exists great danger of perforating the diaphragm on account of its convexity.

Prof. Hare recommends the following prescription in cases of *Gastro intestinal Catarrh in Children:*

℞—Ammonii chloridi. . . . gr. ij.—
Ext. glycyrrhiz. fluid, . . gtt. v.
Aquæ destillat., . . q. s. ad f ʒj.—M.
Ft. sol.
Sig.—To be taken at one dose.

He also highly recommends this same prescription, but four times as strong, in cases of *Bronchitis* in the second stage in adults. In both cases the dose is to be repeated every few hours.

PRURITUS ANI.

No local affection is more annoying and troublesome to a patient than this disease, and often the physician will be put to his "wit's end" to find means of relief. This disease is characterized by an intense itching, burning and lancinating pain, in and around the anus, the pain often coming on in paroxysms, usually being much worse at night, after the patient has retired. The affection often extends to the surrounding tissues, the germs multiplying rapidly and burrowing in different directions, irritating the sensitive nerves, causing most intense itching. In a large number of cases, we find associated with it fistula in ano—hæmorrhoids, irritable fissue and small ulcers, each adding to the misery of the patient. A patient suffering from this trouble usually exhausts all local means he knows or ever heard of. He refrains from consulting a physician as long as he can, consequently he has become nervous, emaciated, and I may, say, almost skeptical, as regards getting well.

The treatment of this trouble is varied, every physician having his own formula, besides every case must be treated on its own merits from the conditions presented. That which I have found most successful in a considerable number of cases, is as follows: When a patient comes to consult me, I endeavor to get his confidence and instil him with hope, the bowels are freely opened with a saline purge, or calomel, and he is directed to report for thorough examination, when such complications as fistula, hæmorrhoids, fissure, etc., are carefully sought for. Of course when any of these are found, they each call for their respective treatment. In a simple case of pruritis ani I order an injection of a solution of the following, which I have found to be a good antiseptic and local stimulant:

℞.—Listerine, ... ʒ iv.
Glycerine, ... ʒ vi.
Acid carbol, ... gtt xx.
Aqua, ... ad ℥ vi.
M. Sig.—ʒss injected to rectum once daily.

It is necessary to medicate the internal sphincter and rectum in all cases of pruritis as there is more or less irritation of these parts. I also use the different ointment and antiseptic solutions, with good results in some cases and none in others. Lately I have employed tincture of iodine. Before using, however, I direct the patient to have the bowels thoroughly moved and an injection of warm soap and water to be taken, the external parts to be washed and dried. Then I apply the iodine thoroughly to the diseased surface; if it is too severe, a small amount of tr. opii can be added, or the parts may be covered by vaseline protected by absorbent cotton.

After having made from four to six applications, I begin to find my patient rapidly improving, or nearly recovered. I direct him to keep the parts clean, use the injection once daily, keep the bowels open, take plenty of outdoor exercise and eat good, nutritious food. Complications, if, present must be treated according to the surgical methods. —*Med. and Surg. Report.*

CURRENT MEDICAL NOTES.

Yawning as a Therapeutic Measure, Dr. O. Naegeli.—In certain affections of the throat, such as acute pharyngitis and catarrh of the Eustachian tube with pain in the ear and deafness, excellent results may be obtained by making the patients take many times a day a series of successive yawns. There is an almost instant improvement in the symptoms especially of the pain. The movement of the muscles in the act of gaping acts as a sort of massage.

Hydrastis Canadensis in treatment of the Vomiting of Pregnancy.—In four successive cases of persistent vomiting, a Russian gynæcologist, Dr. P. Fedorow, has obtained rapid and complete success by the administration of the fluid extract of hydrastis canadensis in doses of 20 drops repeated four times a day. The drug acts, according to the author, by lowering the blood pressure, by relieving the uterine congestion and by calming hyperexcitability of the vaso-motor centres of the gastro-intestinal tube.

Cerebral Tumor twice Extirpated with success, Prof. Erb, *Wiener Med. Presse.*—A man of 47 years affected with clonic spasms of the arm, leg and face on the left side. Later, there was hemi-

paresis of all the left side. A diagnosis of a tumor of the right central convolutions was made, the patient trepanned, and a glio-sarcoma of the convolution was found anterior right central; this was extripated as extensively as possible. After the operation the paralysis became sensibly less; the convulsions disappeared completely to reappear eight months later, with less intensity. A year after the first operation the trepan was again employed; the tumor, which had again grown; was again extirpated as deeply as possible. The convulsions and paralysis amended, but have not disappeared completely.

Treatment of Zona—Brocq employs the ollowing:

Boric acid, ...	gr. xv.
Oxide zinc,	
Powd. starch, *aa*, . . .	gr. xxx.
Albolene, ...	ʒ iss.
Lanolin, ...	ʒ ii¼

By means of a needle previously passed through the flame open carefully all the vesicles of the zona; then wash the parts with boric water containing a little alcohol; cover with the above paste; powder with starch and spread over the whole a thick wad of tow. If the pain is too great add muriate of morphine or cocaine to the above formular.

Creasote in the Scrofula of Children.—Dr. J. Sommerbrot, of Breslau, has obtained excellent results in the treatment of scrofula by means of creasote in *high doses*, either in the pure state (in drops which are taken in milk or wine), or mixed with cod liver oil (in capsules). In children less than seven years old the treatment is begun with three drops of creasote a day, gradually increased to eight and even twelve drops. In children over seven years old it is easy to attain in the course of seven or eight days a daily dose of 15 grains. It is seldom necessary to exceed the latter dose, but it can be done without inconvenience if required.—*N. Y. Med. Abstract.*

DEATH UNDER CHLOROFORM.—Mr. F. Mortimer Rowland, M.B, Resident Medical Officer at the City Infirmary, Birmingham, has forwarded us the following report of a case of death under chloroform in that institution: M. S., aged 57, was admitted on November 9th, under Dr. Carter, suffering from ascites, which was thought to be complicated by a tumour (? cystic) in the right pelvic region, for which it was decided to operate. For this purpose, she was transferred to Mr. Jordan Lloyd; and on November 12th, the heart having been found to be apparently healthy, chloroform was administered on a piece of folded lint. Chloroform was given in preference to ether because of an asserted liability to pulmonary trouble. The patient took the anæsthetic perfectly well, and was in no way excited, respiration continuing evenly and deeply, and at normal rapidity up to the time when the skin incision had been made, when quite suddenly, and without warning, she became livid, made a few shallow gasps, and breathing ceased. The heart was examined instantly, and no sounds could be detected. The pupils were not dilated, being about a line in diameter. The tongue was well forward between the teeth during the administration. The head was lowered over the end of the table, and artificial respiration, both by Sylvester's and Howard's methods commenced, but no air could be made either to enter or leave the chest. Insufflation of the lungs was tried without effect, tracheotomy was then performed and insufflation again attempted, though again without effect. Heart puncture made within a few minutes of the onset of alarming symptoms showed the cardiac muscle to be absolutely inactive. Chloroform from the same bottle had been administered the day previously, and was given to another case immediately afterwards without any disturbing effect. The amount administered in this case was not measured accurately, but could not have exceeded half an ounce, and the patient was completely, but not deeply, under when alarming symptoms arose. It is thought that respiration and circulation ceased simultaneously, but that the symptoms were due to respiratory cessation, aided by the upward displacement of the diaphragm from the abdominal fluid. At the *post-mortem* examination the cardiac condition was not such as could be recognized by auscultation, there being no valvular lesions, nor was the condition of the muscle such as could have affected the duration and tone of the first sound. Dr. Rowland calls particular attention to the following: (1) The normal size of the pupils; (2) the position of the tongue; (3) the sudden development of the condition; (4) the lividity of the face throughout in the entire absence of obvious signs of laboured breathing; (5) the early arrest of the heart's action as discovered by auscultation and puncture; (6) the complete failure from the first to make air either enter or leave the chest by any artificial means.—*Brit. Med. Jour.*

CHLOROFORM IN THE TREATMENT OF TYPHOID FEVER.—According to the *Lancet*, Dr. P. Werner has treated 130 cases of typhoid fever with a one-per-cent. solution of chloroform, the employment of which was suggested by Behring's observations of the germicidal action of chloroform upon the bacillus. Werner gave a tablespoonful of the solution every hour or every two hours during the height of the disease, and for some days after the temperature became normal. In all cases in

which this treatment was adopted before the tenth day great improvement was manifested; the tongue did not become brown, diarrhœa and tympanites gradually disappeared, there was no tendency to bed sores, and relapse was very rare. His observations agreed with those of Steppe, who used the drug in 1890 in this disease. Possibly we may have in this a desirable substitute for the so-called Brand treatment, of which Osler says in his recent work: "To transfer a patient from a warm bed to a tub at 70° F., and to keep him there twenty minutes longer, in spite of his piteous entreaties, does seem harsh treatment, and the subsequent shivering and blueness look distressing. A majority of our patients complain of it bitterly, and in private practice it is scarcely feasible."—*N. Y. Med. Jour.*

A NEW METHOD FOR THE CULTURE OF DIPHTHERIA-BACILLI IN HARD-BOILED EGGS.—All who have had experience in the diagnosis of diphtheria by culture-methods agree in praising their accuracy and promptitude. Unfortunately, the general practitioner, who must feel most of all the need of some accurate method for the prompt diagnosis of doubtful cases, does not seem disposed to avail himself of the new process, and the prophecy of Roux and Yersin, that the method would come into general use, appears still to be far from fulfilment. Thinking that the chief obstacle lay in the difficulty of obtaining serum for the culture medium, M. Sakharof recently suggested a simple plan by which slices of hard-boiled eggs, cut with a sterilized knife and placed in sterilized tubes, could be made to replace the serum.

Of this method I have no personal experience, but should imagine that the main objection would still exist, as the physician might not have test-tubes about him at the time when they were most needed. I have, during the past two months, made use of a method which may be regarded as a modification of Sakharof's, and which does away with the necessity both of test-tubes and the preparation of media before they are actually needed for use. I employ hard-boiled eggs, from which a part of the shell is removed with ordinary forceps, after being tapped so as to break it. In this way shell and shell-membrane can readily be peeled off from one extremity (by selecting the narrow extremity the air-chamber is avoided), leaving a smooth, glistening, moist surface, which offers a most tempting spot for making cultures. These are made, as in the case of serum, by touching the diphtheritic exudation with a sterilized needle and drawing the latter lightly from three to six times across the exposed white of the egg. Instead of the regulation platinum needle mounted in a glass rod, I employ either an ordinary needle or a bit of silver suture-wire held in an artery forceps. To guard the culture against contamination the egg has only to be placed upside down in a common egg-cup; it can afterward be wrapped in paper and transported, if necessary. The interior of the cup can be sterilized, if desired, by allowing a flame to enter it for a second or two, though I have not found this necessary, as the nutrient surface does not come in contact with the inside of the cup. The egg and shell are, of course, both sterilized by the act of boiling. Five minutes' boiling suffices, and if the operation has to be done "while you wait," the egg can be cooled in a still shorter time by placing it in cold water. Strict attention to aseptic details is unnecessary, as the diphtheria-bacillus outstrips in its growth the contaminating organisms likely to lead to confusion. The appearance of the diphtheria-colonies at the expiration of twenty-four hours is the same as when they are grown in serum, but I have found the growth even more rapid, so that a colony is already visible in twelve hours. Confusion with micrococci is, of course, to be guarded against. The reliability of this method seems to be the same as that of the methods of Lœffler and E. Roux. I have found one bacillus which attains visible dimensions within the same period, but as this also grew on blood-serum in the manner characteristic of the diphtheria-bacillus, the great value of the method here described is not invalidated by that fact.

Although this minor modification of a now well-tried procedure might enable it to be employed by those destitute of laboratory outfits, I do not think it likely that this means of diagnosis will be utilized by physicians not habituated to laboratory methods. It may be of interest to state here that the constant temperature of about 35° C., needful to insure the rapid and characteristic growth of the diphtheria-bacillus, can readily be obtained by placing in a cupboard or box with the culture, a large jar or pail of warm water, which is renewed from time to time, thus making an impromptu thermostat.—Wyatt Johnston, M.D., Montreal, in *Med. News.*

NOTES ON "ANGINA PECTORIS."—*Potain* describes many varieties of this disease. Some are neuroses; others neuralgic or related to affections of the cardiac plexus. These neuralgic cases may be primitive or symptomatic of an affection of the heart or large blood vessels; others are sympathetic. Finally, the most important are those associated with defective circulation in the heart, due to stenosis of the coronary arteries. There are cases of angina which do not depend upon stenosis of coronary arteries, as the autopsy shows, but *Potain* has never known a case of death due to angina which did not present stenosis of coronary arteries. On the other hand, he had never found a case of marked stenosis of both coronary arteries

in which, during life, there were not attacks of angina.

In cases where the nervous plexus of the heart is primarily affected, death never occurs from the angina itself. In cases of stenosis of coronary arteries nutrition of the heart is not affected, but its functional activity. During unusual exertion a corresponding increase in the blood supply of the heart is demanded, but as this supply is limited by the stenosis of the coronary arteries, a local asphyxia of the cardiac muscle supervenes, resulting in angina pectoris. In a few minutes, the circulation being restored by rest, the cardiac muscle regains the normal condition. Other conditions favoring the occurrence of the paroxysms are: difficult digestion, over-eating, emotional causes, etc. Neuralgic cases of angina are sometimes associated with rheumatism or gout, but *rarely* so. Anginal attacks often occur at nights, with agonizing substernal pain propagated into the left arm. The attacks come without apparent cause, and, after lasting for a minute to half an hour, or three hours or more, cease spontaneously. The attacks recur irregularly, but during the intervals the patient is able to run or undertake any exertion without provoking attacks of angina or anything more than slight dyspnœa. In such cases there is no danger to life. In other cases there is neuritis of the cardiac plexus, more or less allied to an aortic affection. There is then a continuous substernal pain, increasing at times to paroxysms, but never absent in the intervals. *Signs of aortic disease will be found in these cases.* *Budor*, in his observation with regard to the effect of obliteration of the coronary arteries on the nutrition of the cardiac walls, found that in one-fourth of the cases there are supplemental coronary arteries, which run mostly in the upper part of the ventricles, the collateral circulation in which may sometimes prevent myocardial degeneration. *Huchard* gives the following table of differential diagnosis between true angina and hysterical pseudo-angina:

True Angina.	*Hysterical Pseudo-Angina.*
Most common between forty and fifty years.	At every age, even six years.
Most common in men. Attacks brought on by exertion.	Most common in women. Attacks spontaneous.
Attacks rarely periodical or nocturnal.	Often periodical and nocturnal.
Not associated with other symptoms.	Associated with nervous symptoms.
Vaso-motor form rare. Agonizing pain, and sensation of compression by a vice.	Vaso-motor form common. Pain less severe. Sensation of distension.
Pain generally short duration; attitude; silence; immobility.	Pain lasts one or two hours; agitation and activity.
Lesion: Sclerosis of coronary artery.	Neuralgia of nerves.
Prognosis: Grave, often fatal.	Never fatal.

Huchard discusses the *prognosis* of angina:—Sudden death may occur during the course, or at the end of a painful paroxysm, or, by sudden syncope unattended by pain. Anginal patients are very liable to syncope; the patient falls as if struck by lightning. In other cases death is not so sudden, but rapid, and may be attended with symptoms of asphyxia instead of syncope. In other cases the disease may be terminated by intercurrent affections. The predisposing causes of sudden arrest of the heart in angina are probably lesions of the cardiac ganglia and local ischæmia of the myocardium; the exciting causes are spasmodic contraction or thrombosis of the coronary arteries.

Treatment.—*Huchard* gives iodide of potash for three or four years in doses of forty-five to sixty grains daily, taking care to suspend it for eight or ten days each month. In rheumatic cases sodium salicylate, rest, even temperature, and dietetic care are always important. The inhalation of nitrite of amyl (this drug relaxes the peripheral arterioles, lowers the blood pressure, and relieves the heart). Nitro-glycerine and hypodermic injection of morphia are also useful for the same purpose, and act much in the same way. Hot applications to the chest, faradisation of the cardiac region, with internal administration of diffusible stimulants, belladonna, and small doses of opium have been recommended.—Jas. D. Staple, M. R. C. S., in *Hosp. Gaz.*

ON APPENDICITIS, AN ANALYSIS OF SIXTY-EIGHT CASES, AND A SUMMARY OF THE CONDITIONS REQUIRING OPERATION.—Appendicitis is the result of a catarrh of the cæcum extending to the appendix, the secretion being retained; or the cicatrization of a typhoid or other ulcer may cause retention; or inflammation may be caused by an impacted foreign body or fæcal concretion. Sometimes a gangrenous patch may be found in the appendix without any obvious reason. An analysis of the cases admitted into the General Hospital, Birmingham, during the last seven years, shows that they have been 68 in number. Of these 7 died; a mortality of 10.3 per cent. In 40 of the cases there was a well-marked turn in the right iliac fossa, but of these only 4 had well-marked abscess, and in only one of the 4 was the presence of suppurations marked by œdema and redness. Fluctuation was made out in two of the suppurating cases. Relapse was exceptional, happening only 5 times, and of these, only one patient came to operation, and in this case concretions were found in the appendix. In the 7 patients who died, only once was the cæcum the seat of the disease; in all the others the appendix was the starting point. One of these has already been referred to as a relapsing case, and of the remaining 5, 3 were admitted with advanced peritonitis. The analysis

of these cases appears to show that operation is required only in exceptional cases, and ought not to be made the rule.

Cases requiring operation may be classified into three groups:

1. Those in which pus can be diagnosticated with something like certainty.

2. Those in which, from the acuteness of the symptoms, perforation or gangrene of the appendix may be regarded as imminent, if it has not already happened.

3. Those in which prolonged rest, blistering, etc., fail to prevent relapse.

In Class 1 the indications for operation may be: The presence of a distinct tumor increasing in size despite treatment; increasing tenderness, hectic temperature, and perhaps redness, œdema, or fluctuation. The operation consists in cutting down on the most prominent part of the tumor, evacuating the pus, and removing the appendix, if it presents itself easily, and is found to be diseased. The abscess sac will generally be found adherent to the abdominal wall, so that the general cavity of the peritoneum is not opened. The cavity must be drained.

In Class 2 the attack generally has a very acute commencement, pain is very marked, and tenderness of McBurney's point extreme. Tumor there may be none to be felt, unless the patient is examined under an anæsthetic. The temperature will generally be elevated to 102° or 103°, and the pulse will be unduly quick in proportion to the temperature; at the same time the patient looks very ill. These acute symptoms continuing, and especially if there is even a beginning of distention, operation should be resorted to,—and this is especially true of children. An incision should be made in the right semilunar line, pus evacuated if it is found, the appendix removed if this can be done without any great disturbance of parts. The greatest care should be taken to prevent fouling the general cavity of the peritoneum. The wound should be closed, except for the space occupied by a glass drainage tube.

In Class 3 if prolonged rest in bed with blisters and salines fails to give relief, especially if there be a succession of relapses, operation is called for on much the lines laid down in Class 2, but operation should not be resorted to until rest has had a thorough chance of effecting a cure.—Barling in *The Med. Press.*

Creosote in Phthisis.—In a new communication on this subject the writer reaffirms the convictions expressed by him in previous papers as to the great value of this remedy. He finds that it relieves cough, lessens expectoration, improves nutrition, and lessens the number of bacilli even to extinction. The physical signs show evidences of a lessened area of damaged pulmonary tissue, and even the occlusion of small cavities.

The objections to the use of creosote are few; and usually obviated by a little judgment. Occasionally the stomach becomes intolerant; shown by headache, inappetence, and a sluggish feeling in the performance of usual duties; or there is slight pain or uneasiness in the stomach, evidently brought on by the creosote. These ill effects are frequently occasioned by a too rapid increase of the dose, by faulty administration, or by idiosyncrasy; or there is an irritative or weak stomachal condition dependent on catarrhal gastritis, or a possible atrophy of the gastric tubules. The remedy of this state is not far to seek. Diminish the dose or interrupt its use for a while, and resume in small and slowly increasing doses, and more frequently repeated, only after a period of complete rest from taking it. If diarrhœa be occasioned by its use, the same rules apply, or, indeed, an appropriate opiate may be added in small amount to each dose with good effect, so far as toleration is concerned.

Usually the ordinary tests for creosote do not show its presence in the urine. It has been found there, however, and it may irritate the kidneys at times in a pronounced manner. I do not believe this will often take place, unless large and frequent doses of the drug be given.

It is true that under these circumstances I have recognized a passing albuminuria, which disappeared when the amount of creosote taken by the patient was diminished. Examine the urine carefully every few days, at least, when the patient is taking large amounts of creosote. When renal disease exists, I have given creosote and have observed no ill effects from its use, although it is true I have not been willing to increase the dose beyond six or eight minims in the twenty-four hours.

According to Dujardin-Beaumétz, creosote in appreciable doses, while it is eliminated from the body by way of the respiratory organs, congests the bronchial mucous membrane, and thus promotes the occurrence of pulmonary hæmorrhage. According to him the drug is strongly indicated whenever hæmorrhage actually occurs. Nothing in my experience thus far tends to corroborate this view. It seems to me prudent, however, to recognize the possibility of what Beaumetz affirms, and for this reason to interrupt the use of creosote during the time there is hæmoptysis, or an evidently imminent tendency to it.—Beverly Robinson, *Med. Record.*

Adenoid Growth in the Pharynx.—Dr. W. P. Northrup states that he frequently removed these growths with the nail. A spool is placed between the teeth and held with one hand, and the arm of that hand holds the head of the child against the operator's side, while the index-finger of the other hand readily removes the spongy growth in the vault. The results were so satisfactory that

it surprised him that the method was not more generally approved of by laryngologists. The pain was slight, and apprehension of an operation was avoided. Protruding tonsils, when not actually inflamed, should be removed as quickly as possible. The vault of the pharynx should be investigated in every case of deafness or chronic otorrhœa. A surprising improvement often followed a simple operation in these deaf, stupid mouth-breathers. Not only was the hearing improved, but mental brightness was often restored. The condition was one that the general practitioner could discover, and in many cases remove with most satisfactory results.—*Medical Record.*

IN the *Medical Record*, G. H. Penrose sums up an article on creosote as follows:

"I will not burden you with the histories of any of the cases, as none were marked failures or marked cures, but in each there was marked improvement, and it is because of this gradual improvement that I think we have the more encouragement for continuing the use of creosote in every case of tuberculosis.

"In conclusion, I should like to urge the use of creosote, in progressive doses, and think that if previous observers had used the drug in larger doses their results would have been better and more decided. I cannot agree with Professor Flint in the assertion that creosote has but little more than a palliative action in cases where cavities exist. In several instances we have noticed decided improvement in such cases.

"I do not claim, nor do I think, that we have a specific in creosote, but from careful observation of several hundred cases of this dreadful disease, I do think we have a drug of ingnite worth, and, as such, deserving of careful use and more careful study."—*The Times and Register.*

THE ENGLISH AS MEDICINE-TAKERS.—Statisticians have proved beyond dispute that the average of human life in this country at the present time is longer than it has ever been. Whether this be due to the quality of patent medicines which the inhabitants of Great Britain now swallow, as compared with their ancestors, is a question to which qualified medical practitioners would have no hesitation in giving a decided answer; but the fact remains that at this moment Englishmen are taking these Government-stamped nostrums in a manner to make the rest of the world wonder. During the past year the revenue derived from the three-halfpenny stamp placed upon patent medicines amounted to £240,062, an increase of £14,361 over the sum paid in the previous twelve months. The quantity of pills, lotions, powders, and ointments represented by these figures must be something enormous. Licenses for the sale of these compounds have also increased by 1,340 in England and 111 in Scotland, from which the revenue benefits to the extent of £7,188. The total income derived by state from the patent medicines is thus £247,250.—*London Telegraph.*

HOTEL SANITATION.—The "Traveller's Association" of Vienna, lately addressed a memorial to the Home Office, drawing their attention to a grievance seriously affecting that class in the approaching danger. Hotel proprietors, they say, do not recognize the present risk of allowing their water-closets, sheets, towels, etc., to become fouled Though having all the appearance of being newly done up, the serviettes are merely damped with a few drops of water, pressed, and then returned to the table for use, under the base pretence of being clean, while they contain all the germs of saliva, etc., of a preceding user. The government has considered the matter and issued an order taking effect on the 21st inst., that all articles not properly disinfected, down to the drinking-utensils, will subject the proprietor to a severe penalty.—*Medical Press.*

THE PRESERVATION OF VISION.—Dr. Webster Fox has formulated the following propositions as an aid to the preservation of vision (*She Sanitarian*, November, 1892): 1. Do not allow light to fall upon the face of a sleeping infant. 2. Do not allow babies to gaze at a bright light. 3. Do not send children to school before the age of ten. 4. Do not allow children to keep their eyes too long on a near object, at any one time. 5. Do not allow them to study much by artificial light. 6. Do not allow them to use books with small type. 7. Do not allow them to read in a railway carriage. 8. Do not allow boys to smoke tobacco, especially cigarettes. 9. Do not necessarily ascribe headaches to indigestion, the eyes may be the exciting cause. 10. Do not allow the itinerant spectacle vendor to prescribe glasses.

FOR NIGHT SWEATS OF PHTHISIS.—

℞.—Creosoti, ... ♏ iv.
Acidi gallici, ... gr. ij.
Zinci sulphatis. . . . . gr. ij.
Atropinæ sulphatis, ... gr. ɪ ½ s.
M.—Ft. pil. no. v.
S.—One thrice daily.

—*Sei-i-Kwai.—Times and Register.*

IPECACUANHA AS AN OXYTOCIC.—Ipecacuanha is said to stimulate uterine contractions; two to three doses of 10-15 drops of the wine ipecac, if given every ten minutes, have produced very marked contractions in a very short time.—*Der Ærtzl Pract.*

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CHARLATANISM RAMPANT.

That the medical profession in Ontario is afflicted with numerical plethora no member of it will venture to deny, unless miraculously that millenial stage of evolution be reached in which he ignores an honest living as one of the rewards of toil, and yearns for the patronage of suffering humanity, solely for the opportunity of alleviating distress, and to enlarge his field as a a benefactor of mankind.

Doctors are plentiful as daisies in the springtime, and still our medical schools turn them out yearly by the hundreds; what are they to do? It is gratifying to feel that our graduation and license standards have long since been recognized as high by more countries than our own. A large proportion of our newly fledged graduates cross the lines into the neighboring republic, and in the larger field of the sixty-five millions, find there is room for ability, and meet with appreciation. In every large city of the States are to be found on the roll of eminent practitioners the names of those who reflect credit on their Canadian training, and who by Canadian industry have forced their way to the front, in spite of the fact that on every street corner is to be seen the shingle of a disciple of Æsculapius.

In a city of no less pretentions than Cincinnati, according to the *Lancet-Clinic*, to so great straits are a certain class of the profession driven by their numerical multiplication and possibly low order of mentality that they have formed a combine, a sort of "divy up" brotherhood, to catch from the public that patronage which individual attainments had failed to secure.

A *bona fide* company has been formed, on the directorate of which are some leading business men of the community, and which is called "The American Family Physician's Company." They purpose, for an annual fee, granted according to the size of the family, to supply at a moment's notice, a physician, surgeon or accoucheur of reputable standing, who will "do the work up in good shape," also to furnish all medical and surgical appliances "free, gratis, for nothing." Admirable arrangement! Mrs. A. is in the first stage, or at least thinks the pains indicate it; her spouse being a member, the old time request in the words of the song, "Run for the doctor Joe," is rendered obsolete by the onward march of civilization's ingenuity, he rings up the company's office as one might a livery stable for a hack, and sure enough, with as little delay as though another witch of Endor waved some magic wand, the accomplished obstetrician appears on the scene of commotion, with bag in hand, and possibly a homely but useful article in the shape of a bed-pan under his arm; for are not the company, according to their agreement, bound to furnish all requisite appliances? The picture may be slightly over-drawn, but to say the least, degradation is complete.

There appears to be a slight oversight in the policy of this Company; it undertakes to pay all obstetrical fees and its graded assessments are in classes, not strictly according to the extensiveness of the family in all cases; for example, $15 per annum if the family consists of not more than four members. As an inducement no entrance examination is required, the applicant's statement that he is in good health being sufficient. Here lies the defect.

John Smith, a newly made husband, seeks for membership, without examination his fee is pocketed and his name appears on the roll, it being a question *in futuro* as to whether or not the little household of two happy souls will ever be developed into four; and to meet the contingency we would suggest the advisability of subjecting Mr. Smith to a severe cross-questioning regarding the number of twins amongst his ancestors; and it might be

well to call in a phrenologist to pronounce upon the magnitude of his bump of philo-progenitiveness.

The prospectus might, without any stretch of imagination, be taken as part of some low down dime musee farce; but the pity is, 'tis true.

A noble profession cannot ignore the fact that its status in society largely depends upon the respect it has for itself. Medical men the world over cannot afford to be undignified, or to stoop to ignoble methods even to make both ends meet; and to be appreciated in the highest sense of the word they must be perfect gentlemen. Nothing is to be more abhorred than snobbishness; but it would appear that in Cincinnati amongst a certain class of doctors, regard for appearance no longer exists, and the tone is rather too far removed from what it was in the good old days of gold-topped cane, silver buckles and ruffles.

We insert the prospectus as a curiosity.

AMERICAN
FAMILY PHYSICIAN'S COMPANY.
810 NEAVE BUILDING, CINCINNATI, O.

PROSPECTUS.

This Company was organized and is now endorsed by Cincinnati's leading professional and business men.

The plan and scope of the American Family Physician's Company gives to those families who desire such protection, an absolute and sure method of providing a physician and surgeon of the highest professional standing, for sickness or accident to any and all members of the family.

The company also provides all the medicine necessary in such cases.

The company also provides all medical and surgical appliances necessary in the treatment of these cases.

You are not annoyed running first to the office of one physician and then to another to find him in, you simply go the nearest telephone, call up our office, and a physician is at your house in a few minutes. You are absolutely assured of service at once, the best to be had in the city.

You never receive a doctor's bill with a polite request to settle, and just at the time when you need the money for something else.

You are healthy now, but you do not know how soon you may be a confirmed invalid when the best attention will be necessary; then is when the bills run up, then is when you will need the service. Prepare yourself in advance; join with us now.

The cost of the membership is certainly low enough for all to enjoy its benefits. Class A.—For a family consisting of not more than four members, $15.00. Class B.—For a family of more than four and not over six, $18.00; and Class C, for a family of eight or more, $20.00 per year, payable monthly, quarterly, semi-annually or annually, in advance.

We take you if you are in good health now; no examination is necessary.

A policy will be issued to each family and to single persons.

Obstetrical cases are all paid by the company.

It is a matter of efficient and economical service for every policy holder, so do not delay.

THE MEDICAL DEFENCE ASSOCIATION.

The Medical Defence Association is apparently making strenuous efforts to secure the legislation for which in vain it applied last year. The Council last session evinced a desire for reconciliation and a peaceful settlement of differences by appointing a committee to confer with one nominated by the Association. In response to an invitation extended by the Council, the meeting took place; but unfortunately without restoring that harmony which the best interests of the profession demand. It was tacitly understood, as is always the case in such negotiations, that the only object to be looked for was a compromise, for, when diverse interests and strong opinions separate contestants, this is all that can, in the nature of things, be expected.

The grievances and corresponding requests for redress were formulated and presented to the committee of the Council, and it would appear from its replies that it was willing to concede the greater part of what was asked for, and in a conciliatory spirit; therefore it is unfortunate that their overtures were not acceptable.

The Association claims that all its causes of disaffection hinge on the fact that the profession at large is inadequately represented in the Council's deliberations, that school men by superior influence and combination, work solely in the interests of the educational corporations; and accordingly requested that five additional territorial representatives be elected.

This the committee granted on condition that if the penal clause 41 A, be left in abeyance they might rely upon the honor of the profession to pay the annual assessment. They furthermore expressed a willingness that educational bodies, while neither giving instruction in medicine nor granting degrees, should be without representation.

This would unquestionably have given the profession a largely controlling voice in the Council, and in its own hands would have been the remedy. Had these suggestions been acted upon the Committee of the Council, in accordance with their prerogative, would have proceeded to secure legislation to that effect.

Medical men are a busy class, a great deal of reading must necessarily be crowded into their

spare moments, there is but little leisure for the perusal of detailed reports of Council meetings, consequently it would be prudent for them to carefully ascertain the facts before answering the questions on the card accompanying the circular recently issued by the Association, in order to calmly determine whether or not, the published charges to some extent, emanate from prejudice—a defect from which none of us are wholly exempt.

We think it not improbable that a careful reading of the Annual Announcement, would convince any one that, instead of school men combining to the detriment of the profession, the spirit of rivalry and emulation that always exists between the educational bodies, most frequently arranges their representatives on opposite sides, and, judging from the tone of the debates, occasionally in hostile array. This is natural, for their interests are not identical.

Because negotiations have once miscarried it is no reason that they should not be resumed; we have confidence in the good sense of the profession; no matter how wide a difference of opinion may exist, an amicable settlement of disputed points can surely be accomplished, and if happily in this way unanimity be once more restored, the means adopted would be much more creditable in the eyes of the public.

On the authority of the Journal of the American Medical Association, we are glad to be able to state that American educationists are commencing to see the desirability of raising the standard of medical training by requiring longer periods of attendance at College; the enlarged intelligence of the people, with its increased capacity for discriminating between the charlatan and the scientist, is calling out for this change; it is affirmed that fully twenty-five per cent. of the colleges have so changed their curricula during the past year as to require three sessions instead of two as formerly; and it is patent to all who inquire that the largest and most successful, are those who prolong the course into four years. In the long run efficiency and thoroughness are the surest avenues to patronage, and it is a matter of congratulation, that even the best of them may, not without profit, contemplate what has been accomplished in this line in our own Province; for, although it may have been a little premature so far as the financial resources of the community are concerned, the Medical Council erred on the right side in adding a fifth year devoted to clinical work. The burden may for some time bear heavily, and in some instances unjustly on the student; but, in the years to come, the profession as well as the public will be the gainers.

Dr. J. D. Blake has recently given to the medical world the results of numerous trials of phenacetine as an adjuvant to other remedies; it would appear that when given with quinine for the control of malaria it acted well, and very moderate doses only of each were requisite, which is undoubtedly a desideratum. As a substitute for opium to relieve pain in certain conditions in which restraint of the secretory functions is undesirable, it proved in his hands a valuable remedy, not invariably reliable, but, in most instances affording relief; for example, in Sciatica of rheumatic character, such so called specifics as the Salicylates Colchicum or Pot. Iod. might be exhibited, and phenacetine used for the paroxysms of pain. For the same purpose it might be administered in neuralgias pure and simple, while at the same time arsenic, quinine, cod liver oil or other anti-neuralgic and supporting remedies are being employed. It is not ordinarily necessary, so he says, to use larger than five gr. doses, and in this quantity it appears to be as free from danger as any of the heroic antipyretics.

To the Editor of the Canada Lancet.

Dear Sir,—In your issue of this month, one of your editorials was upon the old, but ever interesting subject of the over-crowding of the profession. You mentioned there, what is in my opinion by far the most actively operating cause in keeping up the supply of students, and that is the ease with which a general education, in advance of what is ordinarily styled primary, can be obtained. The public school system of the province is one of our proudest boasts. I do not venture any criticism of it, though I am certain that I could show our pride to be in some points ill-founded. But the high schools of the province are doing a work which has both a good and an evil side. An ex-

perience of seven years in the work of the high school system satisfies me that those schools are responsible for the turning into physicians of a great many who would have been excellent farmers and workmen and business men. I will not say that the more ignorant a man is the better citizen he makes, but I venture to challenge contradiction to the statement, that higher education is not an unmixed blessing. Old Aristotle (I think it is, if my memory is not playing me false), argued the question many centuries ago, whether the pleasure of the pursuit of knowledge lay more in the act of acquisition or in the knowledge itself when attained, and he ended in the conclusion, found before him by the preacher of Sacred Writ, that "all is vanity," that the mere possession of knowledge is not a pleasure, but the act of acquisition; for the higher one climbs the wider is his horizon and the greater the surrounding expanse of regions, till then unsuspected, and still to be explored. But aside from all that, we physicians, lawyers, and other professional men, had better fully realize the parasitic place we fill in the body politic, and, with a view both to our own interests and to those of the general population, seek to check the drafting into our economically unproductive ranks of so much material that, particularly in so young and undeveloped a country, is urgently needed in the ranks of the producers. And the remedy lies ready to our hands. It is not to be imagined that the Council in its discussions on the subject has not had my suggestion made before now, but I shall make it again. Instead of raising the matriculation standard, or increasing the amount of work to be done by the under graduate, for the latter has now reached about the limit of human capabilities, instead even of adding a year to the length of the course, why not raise the percentage necessary for license? This would weed out the incapables, would deter many from entering on a course of study in which the battle inevitably went only to the strong, and would stop many more at the primary examination, and at the same time give the public a more efficient medical service. The schools would be stimulated to better efforts even than in the past, and the safety valve provided by emigration of men who declined or failed at the Council examinations, would still exist. The druggists of the province have to obtain 66.66 per cent. of the total to pass their finals, and the same or a higher per cent. might, in my opinion be advantageously demanded in the Council examinations, both primary and final; some of the subjects, if deemed advisable, having a lower standard, but the high total being necessary.

Didaskalos.

Toronto, Jan. 23rd, 1893.

BACTERIOLOGICAL NOTES.

COMPILED BY E. B. SHUTTLEWORTH.

Influence of Sunlight on Bacteria. — Workers in bacteriology have long been aware that direct sunlight exercises an unfavorable effect on the growth of many micro-organisms, in some cases actually destroying the vitality of germs. As early as 1877 Downes and Blunt showed that some non-pathogenic forms would not develop in direct sunlight, and experiments made by various bacteriologists from that time to the present, go to establish the fact that darkness is generally favorable, while diffuse daylight exercises a restraining influence, and the direct rays of the sun are actually fatal to many organisms. Attempts have been made to account for this germicidal influence, some maintaining that it is due to a change in the culture medium in which the bacteria are located, others ascribe it to the formation of ozone, while a third class hold that light acts directly on the bacteria themselves. It is difficult to say which is the correct view. The balance of opinion is probably against the statement that changes in the medium produce this effect. Buchner and Minck (*Centralb. f. Bact.*) have recently made experiments as to the effect of light on the organisms of cholera and typhoid, and some of the pyogenic cocci, and have found that one hour's exposure to the rays of the sun was sufficient to kill these organisms. They also observed a difference in the bactericidal effects of different parts of the spectrum, and, like Geisler, found it to correspond closely with actinic power; the maximum being reached at the violet end. Since making the above notes the paper of Dr. Sternberg, in the *New York Medical Journal* for January 21st has come to hand, and gives the results of a series of experiments made at the Hoagland Laboratory in order to determine the effect of sunlight on the cholera spirillum. The conclusions arrived at are con-

firmatory of those of previous observers. Bouillon tubes, with two or three loops of a previous culture, inoculated, and then exposed for two hours, were found to be sterile, but, when a larger amount of the original culture was used, development occurred after four hours' exposure, but not after five hours. Dr. Sternberg's paper is replete with interest, and contains much valuable information in regard to the cholera spirillum, more especially that relating to means of disinfection. He describes experiments with all the ordinary methods, and, while noting the advantages or defects of each, places exposure to fresh air and sunshine among the most reliable modes of treatment.

Questionable Germicidal Action of Corrosive Sublimate.—Koch's assertion, in 1881, that mercuric chloride, even in very dilute solution, would prove quickly destructive to bacteria of all kinds, and without any previous treatment, has latterly been called in question. One of the latest objectors is Mr. C. T. McClintock (*Med. News*), who finds that some bacilli, as that of typhoid fever, will withstand the action of a 1-1000 solution of the chloride for many hours. He thinks the conclusion that this agent is a germicide of any considerable power is without proper foundation. Though it may not actually kill germs it may prove a disinfectant. This, he explains, is due to the fact that it forms with cellulose and albuminous bodies an insoluble compound, which, in the case of the cell walls of bacteria, locks up the germs so that they cannot grow, at all events until released. He also attributes the alleged germicidal power of the mercuriec salt to faulty experiments in which the cultures used contained enough of the chloride to act as an antiseptic, which, by inhibiting the growth of bacteria, would give rise to the impression that the vitality of the germ was destroyed.

Bacteria in Æreated Waters.—Vichy water, as originally obtained, is devoid of micro-organisms, but such have been found in the bottled product. M. M. Colin and Roman have made a thorough investigation as to the cause of this contamination, and have arrived at the conclusion that it is to be ascribed to the manipulations in bottling, during which air-forms gain access to the water. For about fourteen days after storage in bottles the number of bacteria increases, but then diminishes. The former result is largely governed by temperature.

Tax on Quacks.—The recent suggestion of the Secretary of the Treasury of the United States, that the tax on alcohol be increased fifty cents per gallon in order to raise more money for the increasing expenses of the Government seems to have met with a favorable response in some quarters, and the question of tariff and taxation will no doubt be considerably discussed by Congress in the near future. In this connection the wisdom of putting a heavy and permanent tax on all forms of nostrums and quackery will at once commend itself to all wise legislators who are working for the public good. A stamp tax of this kind, say twenty-five per cent., on every form of secret medicinal preparation of any kind, whether sold by the retailer, proprietor, manufacturer, or by advertising quack specialists, would be no hardship to the public, as it would in no wise affect the retail price of these articles. All such manufacturers could easily afford to give the Government twenty-five per cent. of the retail price and still have a very handsome profit left, as their net profit is rarely less than five hundred per cent., and often very much more. Legitimate preparations of the Pharmacopœia and other standard preparations where the complete working formula is public property should be exempt. But as the success of quackery depends on secrecy and mystery, and as these two conditions enable unscrupulous persons to get a dollar for a few cents' worth of a simple remedy, it will be seen that there would be no injustice to any one if a good fair tax were put on the business.

If the Government went still further and required all nostrum and secret medicine manufacturers to pay a big license, and place on record open to public inspection a sworn statement of the exact composition, together with a complete working formula of each preparation, much good would result. And if, like insurance companies, they were also required to furnish heavy bonds or make a special deposit, which could be forfeited under proper restrictions, provided their medicine did not do all that was claimed for it, the public would be still better protected both in health and

pocket, and no injustice would be done to the honest manufacturer of articles of real merit. There is no good reason why our Government should not place the nostrum business on the same basis in its Internal Revenue Department as the manufacture of whiskey and tobacco. Analyses of these preparations should be made from time to time, and heavy penalties imposed if they vary from the sworn formula on record, or if any dangerous drug like morphine is being used. England, which is said to be a free trade country, taxes the nostrum business heavily, and derives a large and growing revenue from that source.

A BATTLE WITH OPIUM.—"One day I realized," writes (*London Spectator—Med. Rec.*) a former victim of the opium habit, "that my word was no longer a symbol of truth, and the moral nature I had not quite drowned leaped up in the dark and called me 'Liar!' to my face. Then I awoke, and for the first time for many a day I prayed. Then, also, came the resolve, the determined resolve, come what may, to be done with this damnable tyranny. At six o'clock that evening I took a hearty meal of meat (principally) and a little (very little) red wine. It was June 10, 1868. I had determined to walk into the summer night, walk till I died if necessary, but walk till I won my battle, if I lived through the ordeal. I left my watch at home that I might not pawn it for opium; I took no money with me; even as I left home and struck across the downs I felt the craving coming on (the hour for my penultimate day dose was at hand), and I knew my temptation was with me, and realized how long and bitter the struggle was to be. The craving seemed to me a palpable shape that walked beside me, a presence that outran me and lost me, and came back to me like a faithful dog that would not lose or leave me, that I could not leave or lose! Sometimes I sang, sometimes I raved and swore, sometimes I prayed and wept, but never once, thank God, did my resolution falter. Much of that night I cannot remember. Dim things came back to me at times, such as a fall I had once, hurting my knee. I think I frightened some one who asked me some question, and I believe I can recollect that I myself grew at one time full of fear—fear of hurting myself, not others; and then I suffered thirst—such thirst, such awful thirst—but I must have slaked it somewhere, for in the morning my clothes and necktie were all wet, and so was my hair. At seven in the morning of the next day, I found myself leaning on a gate and looking out on the landscape before me with a sort of curious wonder as to how I came there; my head dropped on my hands, I slept (I think) only a few minutes, and awoke quite well. Since that day I have never touched it, and have never been tempted to touch it. Of course, I am well aware that the doses to which I had become accustomed were not very large, but I am also sure that they were on the increase, and having told my experience lately to a distinguished English physician, he begged me, for the sake of others, to put on record these plain and simple facts. This I now do, and if I do so anonymously, it is only because I believe that no further good could follow the knowledge of my identity or name.

MR. VICTOR HORSLEY AND MISS COBBE.—*Apropos* of the anti-vivisection agitation now going on in London, Mr. Horsley has been led, *Med. Rec.*, after a study of Miss Cobbe's articles, to write the following: "Further, I have purposely employed this plain language in order to make it clear to the public that Miss Cobbe is unworthy of the customary courtesies of debate. Miss Cobbe has, ever since this agitation began, systematically employed the weapon of deceit, professing, as in the present instance, to quote the whole truth, but in reality suppressing or falsifying the essential particulars. This line of conduct deprives Miss Cobbe of all credit, and renders it impossible for me to extend to her the consideration which would otherwise have been due to her sex. I have documentary (printed) proof that she has chosen, for sixteen years or more, to take an immoral course, namely, accusing medical men of murder, cruelty, falsehood, etc., and, in fact, almost every crime in the calendar, while supporting such charges by frauds of the kind I have now exposed. I cannot, therefore, treat her as I would wish to do; I can in this matter only deal with her quite impersonally, so far as her sex is concerned."

Punch presents this matter as follows:

A MODERN SCIENTIFIC DISCUSSION

"——Animis Cœlestibus Iræ!"

Miss Fanny (a gentle and most veracious child).

Yah, you cruel coward! you and your friends skinned a live frog!

Master Victor (an industrious but very touchy little boy): You're a liar! The frog was dead, and you know it!

Miss Fanny: Boohoo! Whether it was dead or not, you've got no right to call names; 'cos I'm a girl, and can't punch your head.

Master Victor: It's just because you're a girl that I can't punch yours! You should have thought of that before you called me a coward?

Our happy New York contemporary *Life* is curiously enough on the side of Miss Cobbe. It might learn a lesson in toleration, honesty, and good sense from its London exchange.

INDICATIONS FOR THE USE OF CIMICIFUGA.—According to Dr. Reed, *Am. Therap.* ten to thirty drops of the fluid extract after meals are used to cure seminal emissions. This has rarely failed in his experience. Half a grain to a grain of the resinoid, cimicifugin, twice a day, has occasionally been found useful in conditions of nervous depression, hysteria, and incipient melancholia. Five to twenty drops of the tincture, several times a day, have proved very helpful in scanty menses, especially in maiden ladies; but if repeated, as often as every three hours even, are likely to cause severe headache. This untoward effect he has never seen from the largest doses, such as half a drachm or a drachm of the fluid extract three times a day. Very small doses, as one-quarter of a drop up to one drop of the ordinary tincture, repeated every one or two hours, will often promptly relieve a frontal headache due to mental fatigue, or any kind of a headache resulting from pelvic congestion at the menstrual period in women. The same doses are often efficient in preventing abortion when threatened from weakness or passive congestion of the uterus, or from habit at a certain stage of pregnancy. Two or three drops of the tinctures of cimicifuga and gelsemium—sometimes one drop of each—every hour or two, are among the most certain means of bringing on the menstrual flow when delayed by passive congestion, cold, grief, or other similar cause, and act similarly with the lochial discharge after parturition. Dragging pelvic pains arising from the same causes may be relieved by the same combination.

RECENT OBSERVATIONS ON SULFONAL.—Sulfonal has been doing very satisfactory work in general practice, largely supplying the place of narcotic drugs in conditions in which the use of the latter is unadvisable. The usefulness of this remedy has called forth many expressions of opinion from all parts of the country. Among the newer uses, which have been made of sulfonal in therapeutics. we have observed the report of Dr. Julius Althaus (*Am. Jour. Med. Sci.*), in which the author successfully treated post-grippal psychoses, where insomnia was present, by the use of prolonged warm baths, and sulfonal. Dr. Hammond is reported as making successful use of this remedy in insomnia following the opium habit; and several observers attest its value in alcoholic delirium. Sulfonal has also given very satisfactory results in inveterate and incurable cases of epilepsy, where there is super-excitability of the brain, and where the attacks are very numerous. The alleviation was very marked in all cases, although the doses were smaller than the average dose for insomnia, being from 10 to 36 grains, administered in warm tea-broth at bedtime, or given in fractional doses during the day.—*Coll. and Clin. Rec.*

APPEARANCE OF THE EYES IN DISEASE.—The eyes *(Times and Reg.)* are congested in variola, scarlet fever, rubeola, yellow fever, typhus fever, meningitis. They are projecting in asphyxia, hydrocephalus, hydrophobia, exophthalmic goitre, and sometimes in functional heart disease. They are sunken in collapse, cholera, and hectic. They are staring in convulsions, apoplexy, meningitis, and dementia. They are rolling in catalepsy and tuberculosis meningitis. They are photophobic in hysteria, meningitis, and cephalalgia. The pupils are dilated in syncope, hysteria, collapse, asphyxia, epilepsy, drowning, uræmia, coma; generally in phthisis, poisoning by belladonna, atropia, fungi, and many vegetable irritants and narcotics. They are contracted in concussion, sunstroke, typhus fever, hemorrhage of tho pons; in poisoning by opium, morphine, prucic acid, calabar bean, ergot of rye, and pilocarpine At first contracted and afterward dilated in compression of the brain, in poisoning by alcohol, ether, and chloroform. At first dilated and afterward contracted in severe apoplexy. They are unequal in paralysis, com-

pression of the brain, and posterior spinal sclerosis. They are frequently oscillating in epilepsy, typhus, and spinal sclerosis. In diseases of the eyes external signs facilitate diagnosis. Congested in conjunctivitis, trachoma, and ophthalmia. Dilated in mydriasis, glaucoma, and amaurosis. Contracted in myosis, retinitis, and iritis. Photophobic in strumous ophthalmia, amaurosis, iritis, sclerotitis, choroiditis, and retinitis.

FISSURE OF THE ANUS IN CHILDREN.—Dr. Wm. I. Hamlin *(Medical Brief)* says that children under two years often suffer from fissure of the anus, and that all cases of painful defecation should be carefully searched for fissure, which, when found, should be stretched and then touched with a sharp pencil of lunar caustic. One or two applications will generally cure the fissure. The cause of constipation and hard stools should be eliminated by changing the diet of the child.

BOOKER in the Bulletin of the Johns Hopkin's Hospital, gives the following conclusions from his investigations into the relation of pseudo-diphtheritic angina to diphtheria. The pseudo-membraneous affections of the throat that sometimes occur secondarily to scarlatina, measles, and perhaps other infectious diseases, often present the clinical features of diphtheria, from which, however, they differ in nature and etiology. The clinical features are not always sufficiently distinctive to differentiate these affections the one from the other. The anatomic changes induced by the activity of the bacillus of diphtheria appear to be characteristic, and unlike those present in the pseudo-diphtheritic processes. Excepting the false membrane, the anatomic changes found in diphtheria are dependent not upon the direct action of the bacilli, but upon a toxic substance to which they give rise. These changes are characterized especially by focal necrosis of tissues, with a peculiar splitting of the nuclei of the cells. The anatomic changes that attend the pseudo-membranous angina of scarlatina are accompanied with an invasion of streptococci, with suppurative processes. The etiologic factor furnishes a certain criterion for the differentiation of diphtheric and pseudo-diphtheric processes, but the diagnosis is, nevertheless, sometimes difficult. Measles and scarlatina render the tissues especially vulnerable to the bacillus of diphtheria. The constant presence of streptococci in pseudo-diphtheric processes is suggestive of an etiologic connection. The streptococci have not been differentiated, and it is presumed that different forms may occur. The relation of streptococci-infection to scarlatinal pseudo-membranous angina has no bearing upon the specific etiology of scarlatina.

The following from the *Hospital Gazette* is *good.*—Having an important engagement two or three weeks ago, I was unable to attend the general meeting of one of the medical societies, and asked a friend to send me a few notes of the meeting. The following came to hand :

ROYAL PIMPLE-CURING SOCIETY.

DR. MAKEM-PAY, President, in the Chair.

Dr. Cutemout related the case of a patient who had for some years past suffered from a very painful and interesting complaint. Not having the notes of the case before him, he was compelled to speak from memory, and, unfortunately, the symptoms had long since been forgotten. The etiology of the disease was very obscure, and he proposed to deal with this more fully on a subsequent occasion. As to treatment, he had found it necessary to employ a great number of remedies, and when last seen the patient reported himself as improving—he was unable to say under which particular treatment. He had since lost sight of the patient and could not, therefore, say whether the improvement had been maintained. *Dr. Swindem* expressed the great interest he took in the case so clearly brought before the Society, and asked for further details, particularly as to whether the bowels were regular. *Dr. Macadamised* said he had met with a similar case in his private practice, in the person of a wealthy American gentleman who, after having been treated by all the leading specialists of Europe and America, recovered in the course of three days in his private hospital at 24 Pignomy Street, W. *Mr. Herringfry* proposed a vote of thanks to the author of this interesting paper.

(Left under discussion.)

THE CANADA LANCET.

A MONTHLY JOURNAL OF

MEDICAL AND SURGICAL SCIENCE, CRITICISM AND NEWS.

Original Communications.

THE NECESSITY OF FINDING THE CAUSE OF RECURRENT EARACHE WHICH SUBSIDES WITHOUT APPARENT INJURY TO THE EAR.*

BY HIRAM WOODS, M D.,

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No physician of considerable practice can have failed to have patients consult him on account of recurring earache. In some cases the pain comes in paroxysms of two or three hours' duration, disappears, sometimes spontaneously, sometimes only after the use of hot applications and anodynes, and returns after a long or short interval. Again, there are no distinct paroxysms of pain. The individual is conscious now and then that his ear hurts him. It never confines him to the house, and he may make only an incidental allusion to it when he happens to feel a pang, or thinks of the matter when with his physician. While by no means always so, the first class is usually made up of children, the second of adults. One will find, I think, that the subsequent histories of such cases divide them into three groups: (1) those who "outgrow," as it is called, the earache, or at any rate cease to have the attacks, and retain good hearing; (2) those who continue to have occasional paroxysms, or else now and then feel a twinge of pain, without the development of any special symptoms, save a slight, and possibly transient, defect in hearing; (3) those who after an attack of earache have a serous or purulent otorrhœa. This may subside and leave the ear still useful, but nevertheless impaired, or it may become chronic.

Thus earache may be a trivial matter. Again, it may be a symptom of an inflammation, which will soon show itself by a discharge, or else be the only appreciable indication of conditions which can cause slow changes in the ear and lessen its usefulness. If the diagnosis "earache" be looked upon as good and sufficient, and therapeusis be limi ed to relieving the patient's suffering, *possibly* no harm will be done; but in the majority of cases important things will be overlooked, and harm will result. The object of this paper is to make a brief study of these cases of earache with special reference to their effects and causes. Barring furuncular and diffuse inflammation of the external auditory canal, painful affections of the ear are due, usually, to catarrhal inflammation of the tympanic cavity, or to reflex neuralgia of the ear from some cause outside of the ear itself. Canal inflammation generally shows itself clearly enough and need not be considered. Of catarrhal inflammation of the drum cavity, many cases pursue the typical course of hyperæmia of the tympanic mucosa, exudation into the drum cavity, perforation of the drumhead, and the establishment of an otorrhœa. Pain is the most prominent symptom of the stages of hyperæmia and exudation, and is relieved when the drumhead ruptures. But all cases do not go so far as perforation. There is hyperæmia of the tympanic mucous membrane, and examination of the ear with the head-mirror, reflected light and ear speculum reveals the vascular changes in the drumhead characteristic of acute aural catarrh; but there is never the bulging of the drumhead indicative of exudation, hearing may not be greatly impaired, the drum can be inflated through the Eustachian tube, and the trouble does not go beyond the stage of hyperæmia. There are a great many such cases of abortive acute aural catarrh observed in an aural clinic. Tympanic hyperæmia may occur once or twice as the result of cold or exposure, and subside without serious results; but when it occurs again and again two things become manifest: (1) the usual results of repeated hyperæmia will probably ensue in the tympanic cavity, and (2) there must be some cause of these attacks more or less closely connected with the ear. That acute catarrh of the tympanum is the most common cause of the repeated earaches frequently observed in children is the opinion of such authors as Woakes, Roosa, and Buck; but the pain soon subsides, the hear-

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ing continues good, and nothing more is thought of the matter till the next attack. If more care were taken to make the tests, there is little doubt but that the hearing of ears which have passed through two or three such attacks would be found impaired. Still, as one can lose nearly one-half of the normal hearing power without being specially inconvenienced, the slow deterioration is not noticed for a long time. This gradual lessening of the hearing power after repeated tympanic hyperæmia is the result of connective tissue formation in the mucous membrane covering the walls of, and ossicles in, the drum cavity. The ossicles become adherent to the walls of the cavity at the points where they touch, the joints between the ossicles become anchylosed, and so the power of conducting sound-waves to the nervous ear is lessened.

Again, as this thickening advances, the tympanum becomes less able to withstand fresh attacks, and so an otorrhœa is apt to eventually result, with all its attendant inconveniences and perils.; nor do the dangers from tympanic catarrh, not diagnosticable except by objective examination, and presenting only symptoms of severe pain in the ear, stop at the point mentioned. Such attacks are very common among infants. Woakes thinks convulsions are often caused by pressure upon the labyrinth, from an exudation into the tympanum due to an acute aural catarrh, resulting from dentition. He, Politzer and others describe a fold of the meninges, which in infancy passes through the petro-squamosal suture into the drum. Cases of fatal meningitis may thus develop before the tympanic inflammation has caused rupture of the drumhead. While such results may be rare, certain it is that the ultimate production of a foul otorrhœa in infants, after one or more neglected attacks of earache during dentition, is a common occurrence. Possibly the ear is not thought of as a source of pain, until the appearance of the discharge. Deaf-mutism can thus result if the hearing becomes greatly impaired before speech has been learned, even if the child escapes the more fatal dangers of an otorrhœa.

Having thus reviewed some of the consequences of tympanic catarrh of which *pain* is usually the only symptom, I beg to lay stress upon the facts that earache is only a *symptom* ; that diagnosis must extend to the discovery of its cause ; that if this cause, in turn, is due to other abnormal conditions, they must be found ; that the therapeusis of earache, especially recurring earache, must go further than relief of pain. There is not the space in the limits of this paper to enter into the therapeusis of tympanic catarrh, appropriate as such a course might be. To some of its causes, too frequently overlooked, I desire to direct attention.

Chronic abnormalities of the naso-pharynx are a prolific cause of tympanic catarrh. Follicular pharyngitis, post-nasal vegetations and hypertrophied tonsils are, in my experience, the most common throat lesions observed in connection with recurring earache. It is, I think, a more or less common belief that, if chronic follicular pharyngitis does not cause so much throat discomfort as to call attention to itself, or if post-nasal adenoid vegetations do not interfere with nasal respiration, these troubles may be left alone. That they can produce deafness and recurring hyperæmia of the tympanum without special throat or nasal symptoms, I do not think admits of doubt. Situated, as they often are, near the pharyngeal mouths of the Eustachian tubes, these inflamed follicles or vegetations act as irritants, increase the vascularity of the tubes, and cause an Eustachian catarrh. This can reach the tympanum by direct continuity of mucous membrane. Again, as soon as ventilation of the tympanum through the Eustachians is hindered, and the air already in the tympanum has been absorbed—no renewal taking place through the tubes—atmospheric pressure in the external canal drives the drumhead inwards, producing undue pressure upon the ossicles. Impairment of hearing and tinnitus usually follow at once. If unrelieved, hyperæmia and pain follow. Relief comes as soon as the Eustachians again admit air to the drums. Inflation by Politzer's method promptly removes the ear symptoms and the application of a nitrate of silver solution to the mouths of the tubes lessens the secondary catarrh ; but it will surely return, unless the primary trouble is removed. As regards enlarged tonsils, their importance, from an otological standpoint, has been exaggerated. Probably they rarely occur unaccompanied by other morbid conditions of the throat, which more immediately affect the ear. By lessing the air-space, they may, indeed, produce these conditions. This will certainly be the case if they interfere with nasal respiration. The same is true,

however, of any conditions which block the nostrils. Mouth-breaking is a well-known cause of pharyngeal disease, and when nasal respiration is impeded in persons suffering from ear symptoms, it should be re-established. Still, so far as the *direct* influence of hypertrophied tonsils upon the ear is concerned, Roosa states that it is doubtful if they ever enlarge to the extent of pressing upon the mouths of the tubes. He advises their removal upon the grounds I have advanced: that they may "effect the health of the pharynx." I have seen patients cured of middle ear disease by the removal of post-nasal vegetations, although hypertrophied tonsils were also present. Another source of danger to the ears from naso-pharyngeal disease direct microbic invasion through the tubes. This undoubtedly occurs.

Occasionally one will observe a patient who has earache, and possibly defective hearing, and find one or more of the throat lesions mentioned, but the examination of the ear will be negative. The drumhead does not present any increased vascularity. Evidently there is no tympanic inflammation. The pain is not so severe or lasting as in tympanic catarrh. It is felt as a shooting neuralgic pain in the ear. I have had under my care two sisters who have shown this condition. One consulted me for occasional attacks of deafness and earache some time ago. I reported her case in the *Maryland Medical Journal* of Dec. 26th, 1891, in an article upon post-nasal vegetations as a cause of deafness. I frequently examined her ear when painful, but there was no inflammation. When I removed the vegetations with Mackenzie's forceps, she experienced severe pain in both ears. Her sister has follicular pharyngitis and tonsillitis. Earache with her is not a marked symptom, but her hearing has been poor. I have, however, often produced an otalgia, or ear neuralgia, with her by simply pressing the tonsils with a probe, or applying an applicator to the naso-pharynx.

I experienced myself last spring a definite and painful proof of the power of throat disease to cause reflex earache without inflammatory changes. I was suffering from an attack of acute tonsillitis on the left side. The afternoon of the second day, my left ear gave me some pain. This steadily increased until by night it was agonizing. I obtained some relief from anodynes, but very little. I could still hear fairly, and could inflate the drum through the Eustachian. Early in the morning I sent for Prof. Chisolm. I feared that he would find an acute aural catarrh. Greatly to my relief he did not. His words were: "It is reflex. The drumhead is not even congested." The correctness of his diagnosis was proven by the sequel. I obtained some relief from the large doses of salicylate of sodium he ordered, but the pain did not cease till my tonsil was well. No ear trouble followed. These cases prove, I think, the power of throat lesions to produce a purely neuralgic earache. Whether or not this reflex can eventually cause organic lesions in the ear, I am not prepared to say; still, they bring us straight back to my theme—the necessity of finding the cause of earache. In the cases of the two sisters mentioned, the causes were of themselves capable of damaging the ears through the Eustachians. The channel of transmission in these cases was almost certainly the glosso-pharyngeal nerve, which supplies the tonsils, pharynx and tympanum with sensory fibres.

The teeth, and more particularly dentition, constitute a source of ear disease which is not sufficiently appreciated. The occurrence of otorrhœa in babies during dentition is frequently observed. Earache in infants, I am sure, is not always recognized as promptly as it should be. I see babies with otorrhœa whose clinical history is very clearly read backwards from the otorrhœa to dentition, but the pain the little one then had in the ear was not attributed to that organ. I have now a little patient nineteen months old, who first had otorrhœa when one year old, the sequel of measles. Both ears are affected. Twice have I succeeded in stopping the discharge, and twice has the boy had a relapse, each time at the cutting of a new tooth.

Sexton, of New York, who has given the subject of oral irritation careful study, considers irritation from the mouth a most prolific cause of ear disease. He goes so far as to condemn amalgum fillings, vulcanite plates, and retention of teeth which have lost their nerve pulp as dangerous to the integrity of the ears. I have tried to make some clinical observations upon this subject. While I have seen nothing to lead me to accept all Sexton says, I have over and over again seen

earache, sometimes accompanied by hyperæmia of the drumhead, and sometimes not, cured only after a carious tooth had been removed, or cleaned out and filled.

The channel of transmission from the teeth to the ears may be directly through the fibres of the fifth from the dental to the auriculo-temporal branch. This may be the case in those patients whose trouble is only *pain* of a reflex character unaccompanied by inflammatory changes; but it will not explain the acute aural catarrh and suppurative otitis of dentition. Two explanations of these lesions are given: (1) extension of the inflammation from the gums to the middle ear by direct continuity of tissue. Roosa says he has seen this. Woakes, on the other hand, holds that the intermediate tissues are healthy, and offers, as an explanation of the tympanic catarrh, vasomotor disturbance. He traces the irritation from the teeth along the afferent sympathetic fibres accompanying the dental branches of the fifth to the otic ganglion. Here the nervi vasorum of the carotid plexus are met and receive reflex irritation. This causes dilatation of the tympanic branch of the internal carotid going to the drumhead. Thus a hyperæmia of the drumhead is produced. Its vessels anastomose freely with those of the drum cavity, and tympanic hyperæmia results—the first step in the production of tympanic catarrh.

Justifiable conclusions from the foregoing are that the diagnosis in cases of recurrent earache must include the condition of the drumhead, pharynx, nose and teeth; that therapeusis must include the treatment of disease found in these structures.

DIAGNOSIS OF DIPHTHERIA.*

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The diagnosis of diphtheria is comparatively easy in the majority of cases. The thick white patch with its red border of inflamed mucous membrane is not likely to be mistaken for anything else. Unfortunately, however, the characteristic appearance is not formed in a large proportion of the cases met with in practice, and as the divergence from the typical form increases, the difficulty of recognizing the disease becomes greater, until at last a point is reached where it will be impossible for even the most experienced to decide whether an existing morbid condition is diphtheria or not.

The constitutional symptoms of pharyngitis are exactly like those of the milder forms of diphtheria, and although the exudation in pharyngitis is usually soft and easily washed or brushed from the mucous membrane, it becomes at times firmer and adheres to the underlying tissue with considerable tenacity, and is then easily mistaken for the false membrane of diphtheria. In mild cases of follicular tonsillitis the exudations from several lacunæ often coalesce and form a somewhat thick white mass, which may adhere to the surface of the tonsil for several days having much the same appearance as diphtheria. The symptoms of a severe attack of follicular tonsillitis are similar to those of the graver forms of diphtheria. In the former, however, the temperature is higher, albuminuria, when present, occurs later and does not last long, the exudation is not so extensive and there is less nervous depression. The inflamed lympathic glands usually found in diphtheria are frequently met with in tonsillitis, while paralysis of the palate and pharynx may follow either.

In endeavoring to arrive at a conclusion as to whether the diseased condition of the pharynx in a given case is diphtheria or not, some other sources of error besides those already referred to have to be guarded against. In making an examination of the pharynx small diphtheritic deposits are liable to escape notice unless the patient makes an effort, to vomit when the tonsils will revolve outward and expose their posterior surfaces; occasionally a laryngoscopic mirror may be useful in making this examination. It will sometimes happen that after a case of pharyngitis has pursued the ordinary course for several days, a false membrane will form and other symptoms of a serious attack of diphtheria become developed, but it is generally admitted that there is a form of diphtheria in which no false membrane is found, and which has no constant or reliable symptoms to distinguish it from ordinary pharyngitis. Sir Morell McKenzie believed that in this form of diphtheria the disease was arrested in its first stage of development, and that its nature could not be known until the occurrence of paralysis, or until there was unmistakable evidence that diphtheria had been contracted from the patient.

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It has been held by some observers that the exudation of follicular tonsillitis while adhering to the tonsil may become invaded by the germs of diphtheria, but owing to the absence of lymphatics in this locality, and to the fact that some persons are not at all susceptible to diphtheria, no result follows so far as the individual in question is concerned, although he is no doubt as much a source of danger to others as if he had the disease in the usual manner. It is impossible to make a diagnosis of laryngeal diphtheria in the early stages of the disease, unless a diphtheritic membrane can be seen in the pharynx. Without this there is no way of distinguishing it from catarrh of the larynx until the mucous secretion becomes free, when, if there is some rise of temperature, we may infer that it is the latter complaint we are dealing with. Cases will sometimes occur, however, in which it will be perfectly certain that there is catarrh of the larynx, and yet the stenosis will go on increasing instead of becoming less, as we might expect, until there is complete obstruction of the larynx; usually, however, some pieces of false membrane will be expelled before death occurs. In this connection a short account of some cases that have come under my own observation may not be without interest.

Case 1.—A little girl, seven and a half years of age, was taken ill about the first of January, 1890. At the time of my visit, twenty-four hours from the beginning of her illness, she was slightly feverish and had a harsh dry cough. She was suffering considerably from nervous depression, there was no indication of diphtheria, but she was the subject of a chronic naso-pharyngeal catarrh, which I knew had existed for a considerable length of time. Although a positive opinion could not be formed at this stage of the disease, I was inclined to consider the case as one of catarrh of the larynx. The next day the child's father reported to me that the cough had become loose, and that she was considerably better. I did not see the child for three days, when I found very decided stenosis of the larynx. The tonsils were covered with typical diphtheritic membrane; there was no fever. The nervous depression had greatly increased, and the case was evidently hopeless; she gradually sank and died four days afterwards.

Case 1.—A few days before the death of the last patient her sister, a girl thirteen years of age, commenced to have symptoms of stenosis of the larynx. On examining the pharynx, I found small but characteristic diphtheritic deposits on both tonsils. This girl never appeared very ill at any time, the larynx became clear in about ten days, and her recovery was soon complete.

Case 3.—Two weeks subsequent to the recovery of the last patient, I was sent for to see an infant eight months old, in the same family. This child had no fever, was bright and cheerful, and had a perfectly healthy pharynx; the breathing did not seem more difficult than might be expected from a slight catarrh of the larynx and trachea. In a day or two the cough became soft, and the case appeared to be pursuing the course of a mild catarrh when signs of laryngeal obstruction suddenly made their appearance, some false membrane was expelled, and the child died from complete obstruction of the larynx a few hours afterwards.

Case 4.—Nine months after the occurrence of these cases, I was asked to see, in consultation, a child living in a house adjoining, occupied by them. This was a boy six years of age, of whom the following history was given by his mother: The boy had been suffering from croup for two weeks, but as he had been frequently affected in the same way, his parents were not particularly anxious about him. The day before my visit an infant in the family, about eighteen months old, suddenly sickened and died in a few hours, apparently of suffocation; the family then became alarmed, and sent for a physician to see the boy.

When I saw this patient his temperature was 101, pulse quick; there were symptoms of laryngeal obstruction, but the cough was softer than that usually present in croup; there was a slight nasal catarrh; the pharynx was perfectly healthy. The obstruction of the larynx increased; tracheotomy was performed and gave relief for several hours; some pieces of false membrane were expelled through the tube; the obstruction formed below the opening in the trachea, and death, resulting from asphyxia, occurred the second day after the operation.

Case 5.—Several months after the occurrence of the last case, I was called to see a child three years old, living on the same street, and on the same side of the street, and about a block distant, from the house where the last case occurred. This child was slightly feverish, had a croupy cough,

and evidently felt very sick; on the pharynx there was a slight but characteristic exudation of pharyngitis. The next day the cough was somewhat softer, but there was evidence of laryngeal obstruction which continued for two days, when a large piece of false membrane was expelled, and the child appeared quite well. Two days afterwards, however, the membrane formed again, and complete obstruction of the larynx occurred.

CASE 6.—Six months after the death of last patient I was asked to see, in consultation, a child who lived in a house adjoining those in which the children first mentioned were sick. This patient was a boy four years old who had been ill for about a week at the time of my visit. There was an exudation in the pharynx, evidently belonging to a catarrhal pharyngitis. There was acute catarrh of the larynx and trachea; the cough became soft, and the child seemed much better next day, and I did not see him again for four days. He was then dying evidently from obstruction of the larynx, although the secretion of mucous was quite free. The temperature never exceeded 101, he was sick about ten days.

Now it may be questioned whether these were all cases of diphtheria; the first three evidently were, the false membrane in two of the others, and the characteristic features of a relapse in one of them, indicated pretty clearly the nature of the complaint. There may be a doubt concerning the sixth case, as no false membrane was visible, but the extreme rarity of death from catarrhal affections of the larynx would leave little room for doubt that this child also died from laryngeal diphtheria.

All the houses in which these children were sick were close together, but the length of the intervals between the occurrence of the illness in the different houses made it improbable that the disease was contracted from the first by the succeeding cases. Although the district was rather thickly populated there was no diphtheria in the neighborhood, nor so far as I could learn, within a radius of several miles. The houses in which these children were ill, were all situated within two hundred yards from the entrance to the St. Clair tunnel, which was in process of construction at that time, and which was probably the source of emanations which at least largely contributed to the illness of the children.

The diagnosis of nasal diphtheria is usually not very difficult, even in those rare cases were the disease begins in the nares, the profound constitutional disturbance, and the inflamed lymphatic glands at the angle of the jaw indicate the nature of the nasal obstruction, although no membrane may be visible. It is not by any means easy to distinguish scarlet fever from diphtheria in all cases. The higher temperature and more uniform redness of the throat usually serve to indicate, in the earlier stages of the attack, that it is not diphtheria. In diphtheria the nervous depression is much greater than in scarlet fever, while the rash, when present in diphtheria, has much less extension than that of scarlet fever, and, as it never desquamates, can thus be distinguished from the latter in the course of a few days. Concerning the membrane that forms in the pharynx during the progress of some cases of scarlet fever although it has the same anatomical characters as the false membrane of diphtheria, it is not capable of giving rise to that disease.

Until recently it could not be said that the microscope had given any material aid in the diagnosis of diphtheria, but since the discovery that the disease has a characteristic bacillus it is not only useful but will soon be essential in the diagnosis of doubtful cases. As yet the general practitioner is not sufficiently familiar with the appearance of the bacillus or with the methods necessary for its discovery to turn to account what will, no doubt, eventually prove to be an expedient of the greatest value.

While the difficulties in the way of making a distinction between diphtheria and catarrhal diseases of the pharynx and larynx remain as formidable as at present, the duties and responsibilities of the medical practitioner will become at times exceedingly perplexing, for while the conscientious physician will use every effort to prevent the spread of such a cruel malady as diphtheria, it will frequently be found necessary to watch, and perhaps isolate, cases which he is much inclined to regard as simple pharyngitis. In order to accomplish this it may be necessary to express the opinion that the patient is probably suffering from diphtheria, or else admit that he does not know what the disease is. In the one case he will, perhaps, get the reputation of being an alarmist, or one who is trying dishonestly to make his trifling

cases of great importance; in the other he will be considered unskillful and far inferior to practitioners who find no such difficulties. But if he yields to these influences and allows a suspected case to come in contact with healthy children, he will expose himself to severe and just censure.

A point which may be properly considered with the diagnosis, and one which does not appear to have received the attention which it deserves, is this: Does one attack of diphtheria afford any protection against subsequent attacks, as is the case with nearly all infectious diseases? If this were not so, would it not frequently happen that families once attacked by diphtheria, and continuing to live under exactly the same conditions, would have the disease almost constantly with them, and would not children living in unhealthy dwellings be liable to a second or third attack at varying intervals when there had been no cleaning or disinfection of the dwellings after the disease had once occurred. It must not be forgotten that second or even third attacks do occur, though rarely in small-pox, scarlet fever and measles.

Selected Articles.

A CONTRIBUTION TO THE SUBJECT OF ACUTE PLEURISY: ITS PATHOLOGY, ETIOLOGY, SYMPTOMATOLOGY AND TREATMENT.

The proper classification of an inflammatory affection of a serous membrane, and especially of the pleura, is not an easy task. The terms "acute," "subacute," and "chronic," that have been applied to diseases of that nature, are often subjects of much criticism, no matter what pathologic lesions or symptomatic indications they may be derived from.

In considering acute pleurisy, I shall not hope to unravel these disputed questions, and only trust that I shall not fall into the common error of making them more intricate.

The term "acute" pleurisy indicates an inflammatory condition, more or less general in extent, of the serous membrane lining the pleural cavity, with sero-fibrinous or purulent deposits, primary or secondary in nature, of microbic or other origin, with a certain degree of sharpness of attack, and in which the height of the disease is attained in a few days, ten at the most, and accompanied by a rise in temperature of greater or less extent. Acute pleurisy may thus be (1) dependent on pre-existing disease or lesions, the development of which may cause sudden intense inflammatory conditions of the pleura, more or less extensive; or (2), it may be an idiopathic disease.

Pathology.—Hyperæmia, or congestion of the blood-vessels within the serous and subserous connective tissue, causing swelling, redness, and edema of the pleura, is the first noticeable lesion of acute idiopathic pleurisy. This congestion may take place in some localized spot and rapidly extend to a greater or less degree; or it may, from the first, present quite a general appearance over the surface of the pleura. Soon the smaller and weaker capillary vessels rupture, producing ecchymotic spots over the membrane, and, at the same time, infiltration of the subserous connective tissue occurs, with a proliferation and detachment of epithelial cells. As the process progresses the pleura is studded with fine granulations upon its surface, in which appear embryonic cells. These tend to organize the newly-formed connective tissue into firm fibrinous bands, which, in old cases, are often found stretching across the pleural cavity, and constitute the so-called neo-membranes. Finally, from the congested serous membrane is poured into the cavity a liquid resembling in all respects the plasma of the blood, except that it is more dilute; the degree of dilution, however, varies with the intensity of the congestion, according to the coagulability of the fibrin in the effused fluid. There are, also, red blood-corpuscles and leukocytes in the liquid; but in simple sero-fibrinous pleurisy the red globules are not in sufficient numbers to cause any marked discoloration; if such occur, the pleurisy is termed "hæmorrhagic."

"Inflammation," says M. Germain Sée, "is a struggle for life, and not a destructive process; it is essentially a vital phenomenon eminently reactionary against a morbid agent." He believes that the teachings of microbiology show that inflammation is a physiologic process strongly exaggerated; a general struggle of the organism against microbic invaders. "The first step in this process," he says, "is leukocytosis, or the exaggerated production of white corpuscles in the blood; and the second is the absorption and destruction of micro organisms by these leukocytes, showing the defensive action of the latter; this is called "phagocytosis."

Certain physiologic functions are attributed to the phagocytes:

1. They carry from the albuminates in the intestinal canal material for combustion in the tissues.

2. Owing to their ameboid movements they are capable of transporting to distant parts of the body substances in their vicinity.

3. They possess, under certain conditions, a reproductive function, and a power of collecting themselves in vast quantities in certain localities.

4. They have what is known as a chemotactic function; so that the leukocytes thus play a considerable rôle in the morphologic contexture, as well as the chemistry of the body.

The French supporters of the germ-theory of disease, believe that when microbes have penetrated the organism, the leukocytes increase; that the conditions that bring them to the blood carry them to the point of excitement, and that it is a chemical property that draws them there. This, they claim, is true of all high-grade inflammations, as pneumonia, but not of the low grade, as malarial fevers.

In pneumonia there is an increase of leukocytes during the height of the disease, but as the fever abates the number of leukocytes diminishes. It is, therefore, held that the real termination of the disease, whether by crisis or lysis, occurs at the time when the leukocytes begin to diminish in the blood.

In acute inflammation there are three stages of development: First, vascular dilatation; second, activity and proliferation of endothelium; third, exudation, with diapedesis of leukocytes. As a consequence of these three stages it is claimed that a great afflux of phagocytes takes place toward the point of attack, both in purulent as well as in catarrhal inflammations; it is less seen in serous varieties, and, perhaps, not at all in infectious processes, the reason for this being that the infectious matters destroy the phagocytic function of the leukocytes, and hence the body has no protecting element against the enemy, and becomes the prey of the microbe. Supuration is considered no exaggeration of inflammation, but is primarily due to the action of streptococci or staphylococci, and although great numbers of phagocytes may be found, yet their defensive action is much harassed by their deadly enemy, the pus-germs.

From the foregoing, if we are to accept this doctrine, we may conclude that inflammation is a physiologic process to develop phagocytes for the purpose of antagonizing microbes.

Anatomically the pleura is a great lymphatic sac, contiguous with the arterio-pulmonary system, and naturally derives its serosity from that source.

According to the eminent French teacher, M. Guerin, "pleurisy is nothing else than lymphangitis." "If one injected the pulmonary artery," says Guerin, "with colored liquid, it would be found that the liquid would appear in the polygonal ramifications of the lymphatics of the pleura."

Moreover, he has practised on the cadaver the injection of bullock's blood in the same manner, and finds that he obtains a serosity from the pleura which, if much force is used in the process of injecting, becomes bloody, or red in color. This is on the healthy lung and pleura. If, on the other hand, he injects a colored liquid in a subject that has suffered and died from pleurisy, there will be found no coloring-matter in the meshes of the lymphatics except those that have not been affected by the inflammatory process. If this be true, we can readily see that when from some cause the lymphatics of the pleura become congested and swollen, and the natural channels for the lymph impeded, an edematous condition of the sub-serous connective tissue will arise, due to forced diapedesis of the serous exudate, and cause the fluid to ooze from all parts into the cavity.

If, then, the lymphatic stoppage is complete enough, and the force behind is strong enough, there will also be more or less diapedesis of red blood-corpuscles, and hence the hæmorrhagic pleurisy. If we find leukocytes in the lymphatic exudation, does that not best explain the formation of pus? It has been stated that the serous exudate of acute pleurisy does not differ materially from the plasma of the blood. (The reason for this appears plain if we consider the contiguity of the arterial capillaries with the lymphatics.) If drawn off it will coagulate, often spontaneously; if beaten or whipped, it will show a deposit of fibrin; and the constituents are the same as the plasma of the blood, except in relative proportion.

It often happens, when one is practising puncture to draw off the effusion of acute pleurisy, that the needle, if small, becomes clogged with fibrinous flocculi. From this fact, it is argued by M. Lancereaux, that these flocculi, and more especially the finer ones, become obstructed in the openings of the lymphatics and produce a mechanical hindrance to the exit of the effused fluid by the thrombus thus formed. When this has occurred to such an extent that it impedes the absorption of liquid beyond the natural time required for the evolution of the disease, he avers, "one must wait for the disintegration and absorption of the clot before any diminishing of the quantity of the fluid by nature takes place."

Secondary pleurisies, or those acute attacks from some pre-existing disease which often occur, doubtless present in many cases the pathologic lesions in the pleura upon which such disease depends; but I can see no reason for the opinion of some authors, that every pleurisy is dependent on lesions of pre-existing maladies, and especially tuberculosis.

Etiology.—In considering the causation of acute pleurisy, one must of necessity admit that there are two general classifications from an etiologic point of view:

a. Those that are not due to any pre-existing disease.

b. Those that are so due.

At the present day there are many and diverse opinions held by eminent medical men as to the factors that produce primary idiopathic pleurisy. There are, indeed, those who would go so far as

to say that all pleurisies are tuberculous in origin, and, hence, secondary.

Undoubtedly, many pleurisies deemed primary are in reality dependent on some complicating or preëxisting disease; but to say that a person must be weakened by constitutional maladies in order to become privileged to have pleurisy, seems as if we were carrying the causative factors beyond the point warranted by our pathologic research. I doubt not, if the chests of many persons who to-day are in good health and have never been cognizant of pleurisy were opened, we would find various traces of old adhesions and other ancient lesions of former pleurisies.

It must, therefore, be admitted, even at the present day of biologic research, that the etiology of acute pleurisy is often obscure: the microbe will not account for all the cases; neither will any other one causative factor. While it is difficult to state with certainty that pleurisy originates in perfectly healthy persons, because latent pathologic lesions cannot be appreciated, yet we know that it does occur in persons, who to all appearances, to themselves and others, are in good health. M. Sée maintains that the etiology of acute pleurisy is always microbic; in fact, that it is a bacterial disease; cold is simply a stimulus to the activity and development of the microörganisms.

M. Jaccoud is of the opinion that in the human body many kinds and many thousands of microorganisms live in peace and harmony together so long as the functions are normal, but let a disturbing element arise, such as taking cold, and their physiologic relations become altered, so that they soon are hostile to each other and cause disease. Netter claims that all forms of pleurisy are of microbic origin, but that the microbes producing them are of many different kinds.

M. Bechamy says: "Microbes do not have so much importance in acute pleurisy as some would have them." He is certain that pleurisy may exist independently of tuberculosis, from the fact that at the age of thirty he was seized with acute pleurisy, and after the usual bleeding, blistering, and purging, he now, at the age of seventy-six, is still alive, and has not developed tuberculosis. In support of this, both he and Dieulafoy state that, in many cases, persons live ten, fifteen, and more years after the operation of thoracentesis, and do not develop tuberculosis.

That exposure to cold has a tendency to excite inflammations, and with them acute pleurisy, is no doubt true. Whether its influence is exerted through the nerve-centers, so as to directly cause pleurisy, or whether it acts simply as a stimulus to organized germs through whose activity the disease originates, is still a much-mooted question. M. Tresbot does not doubt that acute pleurisy in horses is the direct result of an exposure to cold, especially when, after a long, hard drive the animal is allowed to stand unprotected and exposed to a chilling wind. He says that "ordinarily there is nothing in common between sero-fibrinous pleurisy in the horse and tuberculosis"; and also that "it is impossible to class sero-fibrinous pleurisy in the horse with an erruptive fever, or, indeed, with any periodic disease." On the other hand, M. Lancereaux asserts: "Pleurisy should be rightly classed among the infectious maladies, and exposure to cold is nothing but an occasional exciting cause, while the action of the infecting agent still escapes us."

If we should accept the pathologic views of M. Guerin, we might easily explain the causation of the congestion of the blood-vessels by peripheral irritation, and reflex action of the vasomotor nerves from exposure to cold. This, however, does not explain why such excitement should be directed particularly to the pleura.

In a paper on "The Cause of Syncope in Pleurisy," M. La Borde has illustrated by experiment on animals that it is possible to produce a sero-fibrinous pleurisy in a few hours by the action of cantharidin injected into the blood. This leads me to ask the question, Is the causation of acute primary pleurisy ever, in a measure, governed by the ingestion of certain articles of food, taken just previously to an exposure to cold, *i. e.*, is the combination of the two forces sufficient to direct the action of inflamation toward the pleura?

The cause of acute purulent pleurisy is probably of microbic nature. Purulent pleurisies either begin as such, or are secondary to other diseases. Age and debility have much to do with the formation of pus, the young and aged being more susceptible to empyema. It is doubtful if simple sero-fibrinous pleurisies are ever transformed into the purulent form without the aid of outside interference.

Secondary pleurisies occur from a variety of causes, mostly from diseases microbic in origin.

While it may be rare to have pneumonia occur without some localized extension of inflammation to the pleura, it is doubtful if a general acute pleurisy, secondary to pneumonia, can be found with numerous pneumonia-cocci. In the same manner, the causation of pleurisy during an attack of typhoid fever, influenza, malarial fever, rheumatism, and kindred diseases, is undoubtedly due to the same influences that govern the coëxisting disease.

It is well known that pleurisy of an acute type may be secondary to tuberculosis; but there is considerable difference of opinion as to the proportion of cases arising from this source. M. Sée claims that 68 per cent. of all pleurisies are due to this cause. This seems high, or else persons radically recover from tuberculous pleurisy more often than from any other form of tuberculosis. Dr. G. G. Sears reports four hundred and fifty cases of

pleurisy, of which 39 per cent. developed tuberculous disease. Others state that not more than 20 per cent. of pleurisies are tuberculous in origin. The differences, probably, lie in the particular train of cases various observers have met.

There is, however, no doubt that a certain number of cases of tuberculosis have their initinal symptom manifested by an attack of acute pleurisy.

SYMPTOMATOLOGY.—M. Lancereaux and other French observers believe acute pleurisy to be a well-defined cyclic malady, because its lesions are always found unchangeable, and its evolution is as constant as that of pneumonia or of typhoid fever. It presents regular pathologic changes after each seventh day, and this fact allows a classification of the disease into three periods of evolution.

First: Seven days represent the time occupied for the increase of the pathologic lesions, at the end of which the effusion reaches the limit of its advance.

Second: The next seven days represent the time during which the pathologie lesions appear to remain stationary, and the effusion has not undergone any preceptible alteration in amount.

Third: From the fifteenth to the twenty-first day of the disease there takes place an absorption of the inflammatory products, including the effusion. These divisions, of course, cannot be made absolute, because individual cases differ among themselves; thus we all know that fluid-accumulations often completely fill the pleural cavity before the expiration of the first seven days, and when withdrawn reaccumulate; however, we may confidently expect at the end of the first period that in uncomplicated cases there will be no further effusion of fluid.

Each of these three stages has its respective symptoms, but they pass from one to the other without any pronounced expression of change.

In a majority of cases the first period of acute pleurisy is ushered in with a chill, announcing a greater or less rise of temperature; and accompanied with more or less pain in the affected side.

The pyrexia will generally determine the intensity of the inflammation; it seldom rises above 102° or 103°, unless the pleurisy is secondary to some other disease. Pain, which appears with the pyrexia, may begin as soreness in a circumscribed spot and progressively increase to an unbearable intensity; or it may at first be sharp and lancinating, at or below the nipple, from which point it becomes more or less diffused. The pain is increased on motion, and, for this reason, respiratory efforts are, so far as possible, restrained. A dry, hacking cough is generally present, but the pain it occasions calls for efforts at its suppression. After a few hours, when the effusion appears, the pain is moderated and gradually disappears, or its intensity is greatly diminished. The pulse is increased in frequency and generally firm, the rate varying between 100 and 120. As the disease progresses, dyspnea is often developed, and this may be due to several different causes. It may indicate abundant effusion, and be due to compression of the lung or displacement of the heart; it is most commonly a result of one of these. Again, it may be due to congestion of the lungs independently of compression. Edema of the lungs, capillary bronchitis, and rheumatic difficulties sometimes occasion dypsnea when very little fluid can be found in the cavity. Encysted pleurisies occasionally cause pain and dypsnea. Irregularity of the pulse and cyanosis are grave symptoms, largely dependent on displacement or weakness of the heart. Syncope may also be occasioned in various ways; the reflex action of pain is one of its chief causes, as we may often produce it artificially by electrifying some peripheral sensory nerve. Again, when the fluid fills the pleural cavity and is suddenly drawn entirely away, the reaction that follows may cause syncope.

PHYSICAL SIGNS.—These vary with the quantity rather than quality of the effusion. In the early stages of the disease they often establish the diagnosis, and in the latter stages they determine the amount of liquid in the cavity of the chest. On inspection there is in the early stages the restricted motion of the affected side, dependent at first on the amount of pain, and later on the accumulated fluid. The comparison with the sound side is very striking. In left-sided effusions there may be displacement of the heart-beat to the right of the normal, and when large effusions occur on the right side, displacement is sometimes to the left. On palpation, vocal fremitus is lost over a collection of fluid, and if the effusion is large on the right side, the liver may be felt to be displaced. On percussion, we may early find dulness over the lower posterior portions of the chest; this dulness gives place to flatness as the effusion appears and advances; above the fluid the percussion-note remains dull, while at its level, and below, it becomes flat. It will be remembered that the level of the fluid is not a hydrostatic one; but from the elasticity of the lung the level assumes a shape resembling the letter S. Over the sound lung the vesicular resonance is more or less exaggerated. Dulness is likely to remain for a considerable time after the effusion has been absorbed. On auscultation, the respiratory murmur is enfeebled or absent, for the same reasons and in the same progressive manner as the loss of resonance on percussion occurs. Friction-sounds are sometimes heard at the beginning of the disease, but are more common at the close of the third stage. Some observers have indicated that the transmission of the whispered voice, or its absence, has direct relation to the diagnosis of serous or purulent effusions, but this is doubted by others.

No lengthy discussion of the physical signs of

acute pleurisy is necessary here; these do not differ from their description as set forth in our modern text-books.

Treatment.—In considering the treatment of acute pleurisy we must recall the classification of its etiology, viz.:

First: Those cases that are dependent on some other disease for their cause, whether influenced by microbes or not, and hence are secondary pleurisies.

Second: Those cases that are of spontaneous origin, considered idiopathic, and hence are called primary pleurisies.

Physicians may likewise be divided into classes: those who consider pleurisy to be always a microbic disease, and those who do not.

In a recent discussion on this subject the eminent French author, Hardy, said that acute pleurisy of sero-fibrinous nature was no better treated to-day than it was fifty years ago, and, except in purulent forms, no better results were obtained now than then, the death-rate at present being 10 per cent., the same as in the days of our forefathers. This statement may be astonishing to some of us who have been taught to look upon acute pleurisy as a not very fatal disease; however, some statistics would seem to bear out this opinion. Perhaps it would, therefore, be well to consider the modern methods of treatment and then compare them with those practised in the earlier part of the century.

To undertake the consideration of all the medications for pleurisy that have been launched upon us during the past few years would take more time and space than would be profitable for me to employ; suffice it to say that a majority of them have passed into disuse.

The modern medical treatment of acute pleurisy is by the following class of agents: First, by antiseptics, to combat microörganisms; second, by antipyretics, to combat fever; third, by evacuants, to eliminate the fluid.

Dr. Charles Talamon has recently called attention to the action of sodium salicylate in pleuritic effusions, claiming for it the power of promoting rapid absorption of the fluid. He thinks it has a direct action on the inflamed pleura, because by the experiments of Rosenbach it is proved that the salicylates may be found in the serous cavities of the body after their ingestion by the mouth in doses of from ten to twenty grains. Whether the beneficial action on the fluid is due to the antiseptic nature of the agent, he does not state, and whether it is due to this or its diuretic action is still an open question. That sodium salicylate may be of use when the pleurisy is secondary to rheumatism there can be no doubt, but in the primary form to depend on its success as a germicide would be hazardous. However, the salicylates may be employed as antipyretics as advantageously as other remedies; they certainly combine the indications for an antiseptic, antipyretic, and diuretic.

The practice of injecting a solution of salicylic acid or other antiseptic into the pleural cavity to combat microbe in the effusion has been suggested by some, but the treatment seems harsh and uncalled for, unless employed in connection with surgical methods for the treatment of empyemas.

Antipyretics in acute pleurisy are only indicated when the fever rises to 101° or over, and as the fever seldom attains that height for any length of time their use is greatly modified.

Quinine may be advantageously employed in pleurisy depending on malarial poisoning, and during convalescence, as a tonic. Antipyrin, or the other coal-tar derivatives, may be useful in cases accompanied by hyperpyrexia, but none of these measures are calculated to reach the cause of the disease, or to modify its pathology.

The evacuants are administered in acute pleurisy with a view to reduce the amount of effusion after its accumulation.

Under this head, the diuretics play the most important part. Digitalis may support a weak heart, but its action in reducing a pleuritic effusion is small. Milk is often used as a diuretic, but its influence over fluid in this disease is doubtful; while as a food it ought not to be neglected.

The action of purgatives, drastic or saline, and of sudorifics, with a view to reduce the quantity of liquid in the chest, is of no value; moreover, they are often dangerous.

The pleuritic effusion is not really a question of hydropsy; the liquid of general ascites furnishes a chemical analysis quite different from the effusion of pleurisy; the latter is not simply a serum from the blood, but blood-plasma.

In a recent paper on "The Treatment of Pleuritic Effusion," M. Sée draws the following conclusions: "Antiseptics, diuretics, sudorifics, and purgatives, drastic or saline, have no kind of action on the effusion. Milk, which is a powerful diuretic, has no value here, except as a food. No one of these microbic diseases derives the least benefit from venesection. All aggravate the onset of the disease. Expectation is the only rational method of treatment, for sero-fibrinous pleurisy regularly passes through its different phases in two or three weeks, and up to that point all medication is useless." In a recent paper on this subject, M. Lancereaux says: "There is no more use in trying to ward off pleuritic fever than to ward off pneumonia or typhoid fever; however, it is necessary, relying on our pathologic knowledge of the lesions of acute pleurisy, to draw attention to the coagulation in the lymphatic system, and strive to remove it; while we may not succeed, it is the best practice to try."

In discussing the subject, M. Guerin says: "This idea of pleurisy being a simple lymphan-

gitis also gives a clear explanation of the sudden re-absorption of fluid in some cases that for a long time have proved refractory to all treatment. It indicates that the coagulum in the absorbent vessels has become re-absorbed and makes it possible for the fluid to be taken up; we should therefore attempt the prompt moderation of the lymphangitis."

Of late, in the excitement of bacteriologic investigations, the profession had been content to disregard the teachings of our ancestors, and the good old methods in vogue at their time. We have regarded these diseases as cyclic in nature; maladies that must run their regular course in spite of all abortive treatment; sicknesses that are caused by micro-organisms over which we have no control; hence, we must fold our hands and content ourselves with relieving of pain, until such time as the particular germ has loosened his besieging grasp.

This is the "expectant treatment of to-day, and this is the treatment eminent authorities hold out to us for acute pleurisy." "The expectant treatment," says Peter, "is the do-nothing treatment, and this is what many bacteriologists practise. No physician has a right to practise inactivity in these cases when so much can be done toward curing pleurisy if energetic treatment is begun early."

To allow a patient to become weakened by pain and suffering, because pleurisy is a cyclic disease and should terminate spontaneously in two or three weeks, or, because the pathologic conditions are such that, by deferring active measures, one may with impunity puncture the chest and draw off a liter of fluid, is treating the wrong end of the disease. A physician should strive to diminish the intensity of a malady, if, indeed, he cannot shorten its duration.

What are the indications for treatment in acute pleurisy?

Briefly, they are as follows: 1. The relief of pain. 2. The reduction of fever. 3. The arrest of effusion. All of which depends on treating the cause.

It was of these indications our ancestors had a rare knowledge when they applied bleeding and localized vesications; when practised, these at once relieved the pain, reduced the fever, and there was little or no serous effusion found in their cases; moreover, if, in this they were not entirely successful, the harshness of the sickness was notably diminished. By these methods the pathologic lesions were affected, and the cause of the pain and fever reached. In 1819, Lænnec said: "If a plethoric subject had pleurisy, he required bleeding."

While it is undoubtedly true that the pendulum of exsanguination in inflammatory diseases oscillated too far in the early part of this century, and to the detriment of many, is it not also true that at the present time it has swung too far the other way, and "expectant treatment" is employed to the detriment of many? I believe the antiphlogistic treatment is indicated in just as many cases of acute pleurisy now, as in the days of our forefathers. That the treatment may be carried too far I do not deny; the judicious use of it at the right time is the essential point. Pain is almost wholly relieved by the revulsive methods in a short time; this probably being accomplished by the removal of the congestion and its baneful influences, if revulsion is practised early. At the present time, and in some form, opium is employed for the relief of pain; but does it lessen the congestion causing the pain, or simply dull the sensibility to the pain which is the result of the congestion? Revulsion lowers the fever, for which we now employ antipyretics, but will the antipyretic drugs alter the pathologic condition within the pleural cavity?

Farther on in this disease we often employ puncture of the chest to draw off the fluid, but have we not allowed the malady to reach that point by an early neglect to treat the case efficiently, and thus converted what should have been a medical case into a surgical one? This certainly is to be deplored. Peter goes so far as to say, that "By revulsive methods, early employed, one is able to prevent the serous effusion in many cases; to arrest it, if the secretion has begun to form, and finally to absorb it, if a small amount has collected." Andral and Bouilland cite thirty cases in one year, treated antiphlogistically, with one death—percentage of mortality of three. Of seventy cases reported in 1891, treated after the modern methods, there were seven deaths—a death-rate of ten per cent. from acute pleurisy.

How should revulsion be employed in these cases?

Bouilland used to bleed twice and afterward apply wet cups and a large blister. This seems too energetic; yet I have recently been told by an elderly physician of my neighborhood that he once bled a woman with puerperal peritonitis until she fainted, and she had no more symptoms of the disease, and was soon about. One might employ wet cups and vesication more mildly, with equal success. "What is remarkable in these cases," says Peter, "is the toleration of the system to these large bleedings, the rapidity with which the pain ceases and the local symptoms of pleurisy diminish." On the other hand, "Bleeding," says Sée, "after doing so much harm, is springing up again insidiously in many diseases; it has no theoretic basis, and is little better than empiricism.

Can we learn anything from Nature as to the treatment of acute pleurisy?

There is pain from irritation of the intercostal

nerves, due to the evolution of pathologic processes. Nature, in consequence of this inflammatory action, evolves a fluid which acts as a sedative to the injured nerves, and, little by little, the pain subsides. The fluid comes from the blood. This fluid is found to be exactly like the plasma of the blood, except in proportion; is it, therefore, not natural to assume that Nature bleeds her patient in the early stage of pleurisy? To be sure it may be the result of a congested condition, and, hence, one of pathology rather than one of treatment; nevertheless it depletes the vascular system, which, if we anticipate Nature by doing ourselves, we thereby arrest the pathologic condition and relieve Nature.

Regarding the application of blisters, there is a diversity of opinion, although it is generally held that they are useful adjuvants to scarification.

Metschnikoff advances the idea that cantharides possesses an anti-bacterial tendency, and produces leukocytes which act as phagocytes, and proceed to destroy or change the character of the microbe. He would, therefore, inject a solution of cantharidin subcutaneously. Tresbot has no doubt that a cantharides blister is of great value in the treatment of the pleurisy of horses. La Borde, while advocating the use of cantharides blisters, calls attention to the fact that this agent is a poison, and capable of producing inflammation of the lung, bladder, or other viscus, and cautions against its use. There has been some belief that cantharides predisposes to the transforming of serous effusions into purulent ones, and especially in tuberculous patients. Potain denies this, or the possibility of its happening, and maintains that a purulent effusion always starts as such. Counter-irritation may also be effected by the tincture of iodine painted on the surface of the affected side. Little in addition can be said of the treatment of purulent pleurisies prior to surgical interference, which is almost always required.

There is no positive way to differentiate them from the serous varieties, except by explorative puncture, but the indiscriminate use of the exploring-needle, ten or a dozen times, as recommended by some, in search for pus, is to be condemned, even if no harm should chance to arise.

It is in childhood and old age that purulent pleurisy is most likely to occur. Why this is so, unless from a weaker state than is present in adults, is not easily determined; but in the treatment of this affection in children, this fact is to be borne in mind.

Thoracentesis.—This operation, though always to be deplored, is often urgent and often useful. A discussion of its history, which may be found at length in *Pepper's System of Medicine*, is unnecessary in this place. Of late there has been much criticism for and against the operation by eminent authorities. That aspiration, as first practiced by Bowditch, and later elaborated by Dieulafoy and others, is a simple, harmless operation, there can be no doubt; results will bear this statement out. All that is essential to the safety of the operation is thoroughly aseptic instruments, especially the aspirating-needle, and also some little skill in manipulation.

Thoracentesis, as practised by the majority of general practitioners, with any kind of trocar, which may have been used by them to open some abscess-cavity, or even with an aspirating apparatus that has not been perfectly cleansed, is a very dangerous operation.

It has been held by some that after the operation has been performed two or three times it produces a transformation of a sero-fibrinous effusion into a purulent one. This may be so; I do not deny that it often happens, but it is the operator and his unclean instruments that are at fault, rather than the effect of a puncture of the pleura; this is the reason we see one operator successful where another meets with failures.

As a rule, aspiration should not be performed in simple sero-fibrinous pleurisy until after the third week of the disease; and then only as the fluid tends to remain stationary and unabsorbed, unless there is urgent need of interference to save life before that time. If the cause of the non-absorption of the fluid is (according to the views of Lancereaux) a stoppage of the lymphatics of the pleura by the formation of fibrinous thrombi in their orifices, and if we must wait until a disintegration of the clot takes place before the fluid will be absorbed, then no amount of aspiration will hasten the process of natural absorption until that time has expired. Moreover, the drawing off of the fluid will, in many cases, only tend to its re-accumulation up to the point it previously reached, because, according to his theory, if the fluid remains stationary to a given level or height within the cavity of the chest, there must be stoppage of all the lymph-spaces below that level; hence, no absorption is possible. If, then, we remove a part or the whole of the fluid, we do not necessarily remove the stoppage, and the re-accumulating fluid will, in time, reach its former height.

On the other hand, if, before practising thoracentesis, we wait until the disease has reached that period when we may expect these clots to be disintegrating and being taken up by the system, we then may be of some service to Nature in hastening absorption. This period is at about the end of the twenty-first day of the disease. However, there are times previous to this period, when life is threatened by the accumulation of fluid in the pleural cavity to such an extent that it compresses vital organs. When this occurs, it becomes necessary to draw off a certain amount of fluid by

aspiration, in order to relieve distressing symptoms.

By what symptoms can we know that this danger is imminent?

When the fluid-accumulation has progressed to the extreme degree, there is dyspnea, from compression of the lung; more or less cyanosis, if the heart be displaced; flatness on percussion over most of the affected side, and sometimes accompanied with bulging of the intercostal spaces. However, if we wait for these symptoms to appear, there are strong dangers of being too late to render the assistance necessary.

There is in these cases no infallible sign by which we may discover the best time to operate.

Dyspnea, as we know, may be due to other causes than compression of the lung or displacement of the heart, and consequent twisting of the large arteries, by fluid. Cyanosis and syncope are signs that may arise from hearts weakened by excess of pain, with little mechanical interference from an effusion into the pleura.

The most reliable test is by percussion; as by it we may arrive at an approximate estimate of the quantity of fluid contained in the pleural cavity. When the line of flatness has reached the second rib on either side of the chest, the left or right, Dieulafoy estimates the quantity to be about 2000 grams, and states it is time to operate. If, with this percussion-sign, there is dyspnea and some cyanosis, it is time to hasten the operation; as, while it is not right to puncture the chest too early, it is also hazardous to postpone the operation too long.

If, as often happens after early operative interference, the fluid should re-accumulate more or less rapidly, and the symptoms of distress reappear, a second operation would be imperative, and probably later on others would necessarily follow.

Only so much of the fluid should be removed in these cases as will render the patient more comfortable from the distressing symptoms, or remove any danger of immediate collapse. Sudden death has followed the removal of the entire amount of effusion at once, death being due to the congestion occurring from the sudden return of the compressed and distorted viscus to its normal position. A symptom of this danger is said to be the albuminous expectoration observed in these cases. The fluid should, therefore, be withdrawn gradually through a fine needle, and not more than a third, or perhaps a half, of the total quantity of fluid in the chest-cavity be removed at once. It is better to perform the operation several times in this manner than to have a fatal issue from the evacuation of too great a quantity of liquid at once.

In purulent pleurisies no time should be lost in evacuating the pus, observing the same precautions necessary, if by aspiration, as in serous effusions. In children with purulent pleurisies, repeated aspirations are advisable before resorting to more severe surgical methods; but in adults, if a re-accumulation of pus occurs after one aspiration, it is usually better practice to treat the empyema as one would an abscess-cavity and establish a system of free drainage. As these several methods of drainage come strictly under the head of chronic pleurisy, I shall not occupy more time here with a discussion of them.

Finally, I wish here to suggest a method of treatment for pleuritic effusions that I must frankly state is at present a simple theory, because I have not had the time or opportunity to clinically test its value. It is the employment of electrolysis to cause absorption of pleuritic effusions, based on the same theories as when it is used in serous effusions elsewhere. In a word, the operation might be called "electrocentesis." I have not found that any literature on the subject has ever been published—or ever ought to be published; however, electrolysis, as we know, has been employed quite commonly in serous effusions of other localities, such as cysts, hydrocele, tumors, etc., with great benefit in many instances. Why should it not be used with benefit in the serous effusion of pleurisy?

Electricity is used to hasten the absorption of fluid in cysts; first, by its power to chemically transform the watery into gaseous elements; second, by its direct stimulating influence on the lining membrane of the sac.

Is there any reason to expect any different results from the use of electricity, in a similar manner, in pleuritic effusions?

The technique of the operation recommended includes the use of the electro-puncture needle, thrust into the effusion; a clay electrode attached to the negative pole of a galvanic battery, and placed on the outside of the chest-wall. A current of a strength of from 30 to 50 milliampères, and perhaps more, could be safely passed through the fluid in this manner. Care should be taken that the needle be not thrust farther than just into the fluid, so that we get only electric action on the effusion an the costal pleura, otherwise we might electrify some vital organ in a manner not pleasing. From this application of electrolysis we might reasonably expect more or less coagulation of fibrinous matter and absorption of the fluid portions of the effusion. This we might expect to be in proportion to the strength of the current, and the length of time occupied in allowing the current to pass through.

The class of cases this method of treatment would probably benefit would be those in which thoracentesis for any reason could not safely be performed those in which there has been repeated re-accumulation of fluid after aspiration, especially

those of chronic tendencies; and, finally, those of secondary nature, particularly the tuberculous.

All antiseptic precautions usually necessary in any such operation should, of course, be observed. —Frank S. Parsons, M.D., in *Med. News.*

A CASE OF SKIN SHEDDING.

Some months ago I received a letter from Dr. W. T. Bolton, of Biloxi, Miss., asking my opinion of a remarkable case of skin shedding that had come under his observation. On reading the notes that were enclosed I was surprised to find that here was a description of a disease to which I had recently given considerable study, having myself made careful notes upon two cases which are reported in the October, 1891, number of the *International Clinics*, under the title of erythema exfoliativum recurrens.

As the bibliography of this disease, and my reasons for classing it as an erythema, are there given in full, I shall not burden this paper with an unnecessary repetition.

With Dr. Bolton's permission, I here give a report of his case from notes furnished me at different times at my request.

Maggie P., aged twenty years, house-maid by occupation, but also goes to market and helps about laundry. While washing and ironing on May 6th, she perspired a great deal, and, to cool off, went out into the open air when the wind was blowing hard, thus suddenly checking her perspiration. The result was an attack of nausea and vomiting accompanied by pains in the back and limbs. A purgative was given next day, and the patient put to bed. On May 9th, Dr. Bolton was called in at 7 a.m. He noted the following symptoms: Temp. 99.6, pulse 104, nausea and vomiting. The ejected matter is yellowish (bile colored) and viscid. Patient complained of dizziness and a severe headache, the pain being in the upper and back part of the head. Skin of face swollen. Face, neck, and upper part of chest covered with an eruption (erythematous), suggesting the idea that they had been exposed to intense heat. Tongue coated.

On being questioned, patient declared that she had had a similar eruption in February, 1890, and in August, 1891. The first time she had the eruption she thought she had scarlet fever. Both previous attacks had been accompanied by slight fever. None of her relatives have suffered from a similar disease. Both parents, and two brothers, died of consumption. She has had measles, but never had diphtheria, nor scarlet fever, unless the attack of February, 1890, was this disease.

At 7 p.m., of May 9th, it was noted that the temperature was 99, and pulse 80. Patient had vomited at 6 30. Tongue coated in centre, with the edges and tip clean but red. Headache not quite so severe.

May 10, 7 a.m. Temp. 99.8, pulse 98. Slight nausea, but no vomiting since last evening. Did not rest well during night. Took wine several times and broth once. Rash has extended over whole surface of body.

5.30 p.m. Temp. 99.2, pulse 108. General appearance better. Expression of face not so anxious. Skin very red. Wine and broth several times during day.

May 11th, 8 a.m. Temp. 98.8, pulse 90. Rested well, and slept greater portion of the night. Took wine and broth several times. Tongue clean, but not red; its coating, together with a thin enveloping membrane, is coming off. Epidermis of upper eyelids beginning to desquamate.

1.30 p.m. Condition about same as at 8 a.m.

May 12, 8 a.m, Temp. 98.8, pulse 88. Had a severe headache during last evening and early part of night. Return of nausea, but no vomiting.

The mucous membrane of roof of mouth exfoliated in a solid mass. On May 12, and two following days, the epidermis of the entire body was thrown off. That of the trunk and limbs coming off in pieces one to two inches wide, and three to five inches long.

The epidermis of the hands and feet, particularly of the former, came off almost without a break, resembling gloves and moccasins. The nails were loose but did not come off at this time.

The malady gave no further trouble, and the patient was soon up and out, and spending a week in New Orleans. However, on May 31st, just twenty-five days after the beginning of the last attack, she was again suddenly taken sick with the same symptoms, only in a much milder way, the rash being less intense and extensive. The face, mouth, and upper extremities peeled, as before, and on June 4th, the fifth day of the attack, a piece of epidermis a foot long was removed from the arm and elbow.

During the second attack there was slight sore throat, and some pain over the part of the right lung on coughing. On June 4th, the urine was examined and found free from albumen. Specific gravity, 1008.

The nails of fingers and toes fell off after the first attack, but the time is not stated. They also fell off after the two previous attacks. There was very little therapeutic interference in the course of the disease. Oxalate of cerium was given for the vomiting at the outset, and later on calomel and ipecac, combined in powders, were administered.

One dose of quinine and phenacetine, two grains and a half each, was given in the course of the disease, and several times the skin was anointed with vaseline and quinine.

I would respectfully call attention to what I

deem the peculiar characteristics of this case and those already reported by me.

1. *Recurrence.*—In the case here reported there were four attacks in the space of two years and four months, coming on at irregular intervals.

One of my patients was averaging two attacks a year, and at the time his case was reported (1891), had had the exfoliative erythema twenty-three times.

The cause of the recurrence, like the cause of the disease, is unknown, and the accidents precipating the attacks differ with each case.

Dr. Bolton's statement that his patient had had a check of perspiration, suggests that this may have been the immediate or exciting cause of her eruption. If this be so, then the skin and nervous (vaso-motor) system must have been peculiarly sensitive and liable to disarrangement by impressions from external temperature.

That a marked general erythema (hyperæmia) may be produced by cold I can attest from a case that came under my observation last summer. One of the students of the University of the South, 18 years of age, complained to me of a sense of malaise and nausea on going out into the weather on damp and chilly days, saying that large surfaces of his skin would turn red and burn. Furthermore, he said that when he bathed in cold water the part of the skin touched by the water would turn red.

As he was otherwise in good health he was greatly annoyed by this physical peculiarity. Anxious that my eyes should confirm his statements, he requested me to go with him to the general bathing pool of the students and watch the result. He then removed his clothes and showed a good muscular development and quite a white skin. After diving into the water which had a temperature of 56° Fah., and after remaining there four minutes he came out to be inspected. His condition was now quite changed, as he had declared it would be. The face was flushed, but the trunk, arms and thighs had turned a bright red—a smooth, diffused erythema, feeling quite warm under the fingers. He said that it itched him and burned slightly. I then made him come out and put on his clothes, taking his temperature, which had fallen a degree and a half during the bath. The redness remained for an hour and then passed off.

Here was a case of almost universal erythema, which had been directly produced hy a known cause—cold. I have mentioned this case which is unique in my experience, as an illustration of the fact that erythematous disease is not necessarily dependent upon a germ or poison within the system, and that recurrences may be produced by the removal of certain known causes.

2. *Low pulse rate.* I have already called attention (loc. cit.) to the lack of resemblance of the pulse in recurrent exfoliative erythema to that of scarlet fever, a disease which French writers have supposed it to resemble, for the rapid pulse of scarlet fever is characteristic, and in marked contrast with the disease in question. The case here reported had a faster pulse than any that I have noted, and this averaged only $94\frac{2}{3}$ beats per minute.

3. *Absence of marked febrile symptoms.* The disease is not characterized by marked febrile symptoms. The history of the cases goes to show that the first attack is the one most likely to be accompanied by high fever. Subsequent attacks may or may not be accompanied by elevated temperature.

The highest temperature attained by Dr. Bolton's case was 99.8.

4. *Extensive desquamation.* I know of no disease where the desquamation is as great and as complete.

Even *dermatitis exfoliativa* (of which Brocq believes this to be a variety), though accompanied by general scaling of the epidermis, does not shed in so short a space of time, scales as thick and as large as this disease. It differs from *dermatitis exfoliativa* by being of shorter duration, by not appearing in patches at the beginning, and by not having evening exacerbations.

6. *Resemblance to Scarlatina.* For a short time in the history of a case the resemblance to scarlatina is so marked that it seems to me desirable that this article should be concluded by contrasting the main points of difference in parallel columns.

SCARLATINA.	ERYTHEMA EXFOLIATIVA RECURRENCE.
1. Occurs once.	1. Recurs frequently.
2. Contagious.	2. Non-contagious.
3. Marked pyrexia.	3. Pyrexia very slight.
4. Fauces much swollen.	4. Fauces red.
5. Pulse very rapid.	5. Pulse not rapid.
6. Eruption lasts five days.	6. Eruption lasts 3 days.
7. Desquamation sometimes considerable.	7. Desquamation always excessive.
8. Albuminuria common.	8. No albuminuria.

—Henry Wm. Blanc, B. S., M.D., in *Jour. of Cutaneous and Genito-Urinary Diseases.*

THE TREATMENT OF DIABETES MELLITUS BY MEANS OF PANCREATIC JUICE.

In the *British Medical Journal* for January 7th Dr. Mansell-Jones suggests that as the juice of the thyroid gland appears to be almost a specific in myxœdema, pancreatic juice administered before or after meals should be given a fair trial in diabetes, as this disease, he adds, in most cases, appears to be due to disease or disordered function of the pancreas.

Neither pathology nor physiology, however, lend much encouragement to the hope that diabetes mellitus will prove tractable in such a simple way. In the first place, the pathogenesis of this disease is much more complex than that of myxœdema, and disease of the pancreas accounts for probably only a fraction of the cases of this malady. In the second place, even if it were a fact that in most cases diabetes was due to disease or disorder of the pancreas, the analogy of this doubly active gland, both excreting and secreting, with the ductless thyroid gland is not a very close one. There is some reason, however, on theoretical grounds, for the belief that pancreatic juice might have some beneficial effect even in non-pancreatic diabetes.

The recent researches into the pathology of the pancreatic form of diabetes mellitus, of which a most interesting account was given by Dr. Vaughan Harley in the *British Medical Journal* for August 27th, 1892, make it very probable that, in addition to the well-known tryptic, diastatic, fat-splitting, and milk-curdling ferments, a glycolytic ferment is also produced by the pancreas. Assuming the existence in the normal pancreas of this latter ferment, I thought it possible that the administration of a pancreatic extract by the mouth might have some beneficial action in diabetes mellitus by assisting to destroy the sugar in the blood. Acting on this idea, therefore, I anticipated Dr. Mansell-Jones's suggestion, and for some time past have been treating in a tentative way two pronounced cases of diabetes mellitus under my care at the Royal Free Hospital, by the administration of liquor pancreaticus in half-ounce doses given three times a day immediately after food. It is the generally received opinion that, when given in this way, the liquor has no appreciable digestive power, so that we may put the latter effect on one side. No other medicine was given after this treatment was started, and in every respect the patients remained under the same conditions as before.

In both cases the patients have assured me they have experienced benefit from the treatment. I should not have attached so much importance to their statements had it not been that, without any suggestion on my part or collusion on the part of the patients, who attended on different days, there was a remarkable agreement in the accounts they gave of this beneficial effect. They both said they had lost to a great extent their feeling of lassitude and languor, and felt stronger in every way. Their thirst, moreover, had considerably lessened, and they had passed a smaller quantity of urine. These beneficial effects, moreover, have continued. The specific gravity of the urine and the relative amount of sugar have, on the other hand, not been affected.

In an in-patient under the care of my colleague, Dr. Samuel West, his house-physician, Dr. Rendel, informs me that since the administration of liquor pancreaticus, the amount of fluid imbibed during the twenty-four hours, which had previously averaged 12 pints, has fallen to 6 pints, with a similar decrease in the amount of urine passed,

In a disease like diabetes we must be thankful for even small mercies. For myself I would rather find an improvement in the general condition of the patient, increased strength, diminished thirst, and diminished quantity of urine as a result of treatment than a mere diminution of the amount of sugar in the urine without such improvement. I should have preferred, of course, to have found both results. It is evident that liquor pancreaticus is no specific, but the effects in these cases are encouraging enough to induce me to make further trial of it, and it is possible that in cases of true pancreatic diabetes the benefit might be greater. H. W. G. Mackenzie, M.D., F.R.C.P., in *Br. Med. Jour.*

CASES CONTRASTING GOUT AND RHEUMATOID ARTHRITIS.—A CLINICAL LECTURE.

Gentlemen,—I present to you to-day two patients whose diseases I wish to contrast, and thus more clearly bring out a differential diagnosis between them. Both are men about forty years of age, and from their family histories we can elicit no information that has any bearing on their present diseases. This man to my right says that he is by occupation a butler, and that he has been sick for the last twelve years. He had had no serious illness previous to that time. His habits were those of a man accustomed to the best of food, and he indulged to excess in fermented wines, mostly sherry and Madeira. Twelve years ago he had an attack of gout, beginning in the first joint of the great toe of the right foot. This attack lasted six days, and then entirely disappeared. Six months later he had a second attack extending to the same joint of the other foot. This second attack lasted five weeks and then disappeared, to be followed in nine months by a third attack, which involved the knee and finger joints, lasting in its severity one month, when it assumed a chronic phase which resulted in the deformed condition of fingers and toes which he now presents.

Gout is a blood disease, characterized by a deposit of urate of soda in the joints, and by constitutional symptoms, and arthritis. The first arthritic symptom is manifested in the metatarsophalangeal articulation of the great toe, usually of the right side; why this is so I cannot say. This is the history of this patient, and if his memory were sufficiently reliable we could get from in addition premonitory symptoms that preceded his attack of twelve years ago. There are many con-

ditions that indicate a gouty diathesis; these are biliousness, headache, arterio-sclerosis, indigestion, etc. A man who is a high liver and presents such symptoms as these, epecially on the morning after an acute debauch, is on the direct highway to gout. Every man with hard arteries, or these other symptoms, has not gout, but, I repeat, is on the gouty line. Such a man, can, by a timely correction of his habits, avoid an attack of gout; but a man in whom an attack has once developed, even though it be a slight one, has a gouty prospect that will require his utmost solicitude to counteract.

Gout once developed is extremely prone to recur. Upon examination we find that this patient has extremely hard arteries, a pulse of high tension and an hypertrophied left ventricle, but no murmur. These hard, whipcord arteries are due to a general condition of fibrosis; we should find such a condition if we examined his heart, liver and kidneys.

You noticed that in getting the patient's history, I dwelt considerably on his appetite. He said that he was a hearty eater and lived on rich food. This alone, without the use of wine, was cause enough to produce gout. Excessive eating of rich food is a frequent cause of gout in females who lead a luxurious life. They eat often and take large quantities of food, but are absolutely averse to exercise. Walking, with them, is one of the lost arts. Horseback-riding is good, but if you induce them to practice it you perform a miracle. They get gout which brings on a chain of other disorders, particularly at the menopause. It requires patience and tact to treat such cases.

This second patient is a man with diseased joints somewhat similar to that of the gouty patient. You will notice, however, that while the patient with gout complains most of pain in his fingers and toes, that this patient complains of most pain in his elbows. There is also an absence of the deformity in the phalanges here, which we see so plainly marked in the first patient. This man has chronic arthritis in his joints. He says that some years ago he noticed a tenderness, redness, and swelling of the right elbow, then of the left, and next of the ankles. This is a prominent feature of rheumatoid arthritis; it attacks a joint and damages it to such an extent that it often leaves it permanently crippled; this done it attacks another joint with the same result. It appears first in the large joints, while gout appears first in the small joints. This is an important diagnostic point, as we can often tell which disease it is by knowing the joint first affected. Chronic arthritis attacks small joints as well as the large, and may leave them in a more crippled state than will gout. While gout is a disease due to an excess of uric acid in the blood, arthritis is supposed to be an affection of the nervous system. Arthritis is not a rheumatic trouble, and anti-rheumatic drugs like salicylate of soda and iodide of potash have no effect on the disease. There is no drug that will cure it, but I have found that while it is progressing it may be delayed by the judicious use of cod liver oil and arsenic.

Now gout, unlike arthritis, will yield to medicinal remedies. Colchicum is almost a specific in gout. It may be given with or without alkalies; of its various preparations I have found the acetic extract to be the most efficient. I think that it is much better than the tincture or the wine of colchicum seed. If the acute pain of gout does not yield to it, combine a little morphia. After the patient has been relieved of his acute attack we should forcibly impress upon him the necessity of a reformation in his habits; unless he does this he is sure to have another attack in a few months. Gout demands scientific and practical treatment. It is a disease that makes a man prematurely old. The general fibrosis which it gives rise to will, in a short time, make an old man out of a young man.—Dr. A. L. Loomis, in *Med. Fortnightly.*

MEDICAL NOTES.

Prof. Senn recently stated that catgut is the only suture necessary to approximate and maintain any *Fracture of the Patella* until the occurrence of union.

As a *Substitute for Tincture of Iodine* the following is recommended *(Pharm. Era):* Dissolve 1 part of iodine in ether, add 20 parts ol. paraffine, and then allow the ether to evaporate.

Federow Charkon obtained a rapid and complete cure of the *Vomiting of Pregnancy* by the use of fluid extract of hydrastis canadensis, twenty drops four times a day *(Boston Med. and Surg. Journal.)* He believes that this drug reduces the blood pressure, diminishes the hyperæmia of the uterus, and calms the irritated vaso-motor centres of the digestive apparatus.

Dr. W. L. Symes (*Dublin Jour. of Med. Science* in *Med. Record*, Oct. 1, 1892), reports a case of *Heart Failure* in which there was no pulse, no sound over his heart, no respiration; his eyes were glassy and fixed; he could not swallow; and severe slapping of the epigastrium had no effect. Having exhausted all available stimulants, and recollecting that he had read somewhere of the value of a hot spoon applied to the epigastrium in states of asphyxia or syncope, Dr. Symes took a hot lump of coal from the fire with the tongs, and applying it over the xiphoid cartilage once or twice, was gratified to find it produce powerful contractions of the inspiratory muscles. This was continued for some time, applications being

made around the insertion of the diaphragm, until by degrees, respiration returned, the patient's eyes opened, his heart beat, and the color came back to his face. He then took some brandy, and finally rallied.

As an *Antiseptic Mouth Wash*, Müller (*Med. Record*) recommends :—

R.—Acid. thymic., ... gr. iv.
Acid. benzoic., ... gr. xl.
Tinct. eucalypti, ... fʒss.
Spirit. vini rectificat., . . . fʒiij.
Essent. menth. piperit., . . gtt. x.—M.

Sig.—Drop enough into a glass of water to cause turbidity, and rinse the mouth morning and night.

An excellent cleansing and disinfecting *Solution for Free Use in the Nasal Cavities*, by means of the spray apparatus, douche, or syringe, is prepared as follows :—

R.—Acidi borici, ...
Sodii borat., ... āā ʒj.
Sodii chloridi., ... ℥ss.
Listerine, ... fʒij.
Aquæ puræ, ... fʒvj.—M.

Prof. Hare says that an ordinary cup of coffee contains from twenty to thirty minims of the oil of caffeine.

Prof. Keen says that in some few cases the bacteria of *Erysipelas* injected in a cancerous tumor have at first produced erysipelas in the patient, but later on have effected a cure of the tumor.

Prof. Keen prefers not administering any stimulants in the earlier stages of *Erysipelas;* but thinks that they should be administered in the later stages, if the patient's condition calls for them.

Prof. Parvin says that antipyrine will be found very useful for the relief of pain in *Dysmenorrhœa;* and, moreover, it is free from the many objections that are raised against opium for the relief of pain.

Prof. Hare says that in *Persistent Attacks of Vomiting* best results will be obtained from rectal injections of the following :

R—Tinct. of opium. deod., . . ♏ xxx.
Bromide of potassium, . . grs. xxx-xl.
Starch water, ... q. s.—M.

Dr. Eschner says that in cases of *Disease of the Heart*, calling for a treatment by digitalis, the best results will be obtained by administering it for three or four weeks and then substituting some other heart tonic for the same length of time.

If the stockings are soaked in a saturated solution of boric acid and allowed to dry, and be then worn, Prof. Hare says that cases of *Sweating of the Feet* will often be cured, and in most cases if not cured, the odor arising from the sweating feet will often disappear.

Prof. Brinton gave his class the following prescription for a case of *Gonorrhœa :*

℞—Plumbi acetat., ... gr. xxx.
Zince sulph., ... gr. xv.
Hydrastin sulph., . . . gr. xij.
Extract. ergotæ fluid, . . fʒiv.
Tinct. oppi, ... fʒiij.
Aquæ, ... fʒvj.—M.

Sig.—Use as an injection. Shake well before using.

The following constitutional treatment is recommended by Prof. Keen in cases of *Septicæmia, Pyæmia*, and *Puerperal Fever :* Good, easily digested food, and alcoholic liquor in as large a quantity as the patient will be able to bear without becoming intoxicated.

Dr. Albert Brubaker says that *Spasmodic Croup* in children, coming on suddenly at night, is often due to impaired digestion brought on by eating some heavy food just before retiring. If the stomach in these cases be emptied by an emetic, it will be found that the croup will also disappear.

—*Col. and Clin. Record.*

CANNABIS INDICA.

As a non opiate anodyne this drug ranks next in importance to the coal-tar compounds. It is less used at present than it should be. It seems to have fallen into disuse through the fact that preparations are often found in the shops comparatively inert, and also through a fear of its toxic power. Indian hemp, however, is not a poison. Not a case of death from the drug is on record. It may in very large doses cause alarming symtoms but never death. Regarding the preparation of the drug used, one can by a careful trial with various specimens secure a reliable preparation and establish its dose.

There can be no doubt as to its analgesic power. Stillé says : " Its curative powers are unquestionable in spasmodic and painful affections." Its anæsthetic virtue is shown in allaying the intense itching of eczema so as to permit sleep. Its most important use is probably in the treatment of miggraine. As this affection often leads to the establishment of the morphine habit, we should always give this drug a thorough trial before resorting to opiates. Ringer considers it the most useful drug, and lays great stress upon its power of preventing the attack when given over an extended period. It is most effective in attacks due

to fatigue, anxiety or climatic changes. For the relief of a severe attack in the young from gr. ¼-½ of a good extract may be given and repeated in two hours if it does not produce sleep.

It has been found of marked value in the epileptic head-pain and unrest; in neuralgia and neuritis even of long standing; in the constant all day headache not dependent on anæmia or peripheral irritation; in cardiac tumult, senile delirium and the night unrest of paresis or the delirium of celebral softening. In dysmenorrhœa it is sometimes signally successful. In genito-urinary disorders it often acts kindly; in vesical spasm, chordee, retention of urine and the renal pain of Bright's disease. It calms the pain of clap, relieves the distress of gastric ulcer and gastrodynia. In incurable diseases, such as advanced phthisis, it brings euthanasia by allaying pain and producing sleep without the disagreeable after effects of some other drugs.

Failure with the drug is often due to the use of a poor article. At times 10-12 grains of the extract may be given without result, and again a third of a grain may be efficient. Hence the importance of knowing the character of the preparation used. Potter says that if the precipitate formed when the alcoholic preparation is added to water be of a brownish hue, a dirty yellow brown, the sample will be almost inert, but if of a decided olive-green color the preparation will be active.—Dr. Dodge in *Pacific Med. Law.*

ACCIDENT UNDER CHLOROFORM; RECOVERY.—A few brief notes on a case that might be called "apparent death from insufficient chloroform" may be useful. The patient, a strong man of about thirty, had a very large sarcoma of the testicle. Chloroform was at once given, according to our usual practice with new patients from a distance, although he had had a full meal. Chloroform was given slowly by a native assistant. The patient struggled when the first incisions were made and almost immediately began to retch and brought up a little rice. The stomach probably remained full. Up to this time he had taken about five drachms of chloroform, but after vomiting no more was put on the cap by the assistant. I was assisting Dr. Ernest Neve with the operation. A clamp was put on the cord and the tumor cut away. I had previously noticed great dilatation of the pupils. The patient now became rigid, almost in a state of opisthotonos; the face was blanched, no pulse or cardiac impulse could be felt and the breathing stopped. He was lifted at once off the table and put on the floor with legs raised. Artificial respiration was begun and was assisted by irregular gasping inspirations. The wound had ceased bleeding and the heart's action appearded to have stopped; several minutes passed. The clamp on the cord was loosened; dilute ammonia was injected into the arm and half a pint of hot water into the rectum. A slight color now returned, though the pupils continued widely dilated and a feeble pulse could be felt. The operation was rapidly proceeded with and the wound stitched; sensibility began to return. Suddenly smart bleeding began, owing to retraction of the artery above the ligature on the cord. The wound had to be reopened. I then took charge of the chloroform myself and rapidly administered two drachms; the breathing became quiet and regular, the artery was found and ligatured, and the operation completed without any difficulty. I would call attention to a few points: (1) Although a good deal of chloroform was administered, it was obviously insufficient; (2) clamping the cord in a semi-anæsthetised patient who had just been vomiting produced shock which in the higher nervous organization of a European might have proved fatal; (3) the patient bore the rapid administration of another full dose of chloroform when properly administered perfectly well and showed no signs of shock when the cord was religatured.

For over twenty-five years the extensive surgical work of this medical mission has been carried on without a single death under chloroform, which is the only anæsthetic employed. To what do we owe our immunity? Not to climate, for the temperature of the operating room from October to March is never above 50° and often below 40°; partly perhaps to the low nervous organization of the natives and their perfect confidence in taking chloroform; chiefly, it would appear, to the sound principles on which it is administered, according to the rules laid down by Syme, although the actual administrators are always unqualified native assistants.—Arthur Neve, F.R.C.S. E., *in Lancet.*

APPENDICITIS: MEDICAL AND SURGICAL MANAGEMENT.—At the September meeting of the Missouri Valley Medical Society, Dr. A. F. Jonas, read a most interesting paper on the above subject. Notwithstanding the fact that the topic is almost worn threadbare, it is one of such importance that the physician should be alive to the necessity of being ever ready to meet it; especially does this apply to those physicians practicing in rural districts where they do not have time nor opportunity to call counsel.

While surgery is making such rapid strides followed by most brilliant results, he advises the younger practitioners not to be carried away with the idea that medicinal means are of no avail, in the treatment of appendicitis, but urges a more thorough study of the disease, and accuracy in diagnosis. Good sound judgment and anatomical knowledge of the parts are absolutely necessary, before the physician can be sure of just when to call surgery to his aid.

He gives a table of a series of thirty cases,

which have occured in his practice, or have come under his notice. The treatment was largely surgical; a few cases apparently recovered under medicinal measures. After carefully considering the various means, usually employed in the treatment of appendicitis he summarizes as follows:

1. When called early, insist on absolute rest in bed.

2. Fomentations, if pain is severe, and give codeine if necessary.

3. Salines (liberal doses) every half hour until four to six fluid stools are produced.

4. If the salines, after having produced free catharsis, fail to relieve, or aggravate the pain and fever; *operate.*

5. If salines fail to produce free catharsis; *operate.*

6. Temporizing with salines, or any other form of medicinal treatment, is worse than useless. When there is the slightest evidence of the presence of pus, an operation must be done at the earliest possible moment.

7. Guard against over-zealousness in search of the appendix, in large abscess cavities, lest the limiting intestinal agglutination be broken down and general peritoneal infection follows.

8. Always remove the appendix when it can be safely done.

9. Elevate the pelvis, as in Trendelenburg's position, in cases of small abscess limited to the lumen of the appendix or its mesenterium, or in any case when the peritoneal cavity is entered and where the intestinal distention is such as to make it difficult to find the caput-coli, or the appendix.—*Med. and Surg. Rep.*

URIC ACID PATHOLOGY.—It needs a man possessed of no small amount of skill and perseverance to undertake, *à fortiori* to carry out, investigations bearing on the pathology of uric acid, the more so because the results of years of patient research may prove inconsistent or fail to resist hostile criticisms. Dr. Haig, some nine years ago, was mesmerised by the uric acid problems, and ever since he has unintermittingly read contribution after contribution, every time extending the sphere of evil influences until he has eventually come to regard uric acid as the source of many, if not most, of the ills to which flesh is heir to Nevertheless, and in spite of the fact that his facts do not always concord with clinical observation, his work has indisputably added very materially to our knowledge of a very recondite problem in pathology. A high intra-arterial tension is the forerunner of a whole series of morbid changes in tissues and organs subjected to the continuous strain, and an exaggeration of vascular tension, he shows us to be intimately associated with the pressure of uric acid, in one form or another, in the blood. It acts by causing irritative construction of the arteries, thus increasing the perpetual resistance, and *pari passu* the pressure on the larger arteries. This, however, is only the case provided the heart responds to the greater resistance by increased propulsive energy. If the resistance exceed a certain ratio, or if the heart, from any cause, prove unequal to the occasion, a fall, and not a rise of blood pressure follows. Having established to his satisfaction the fact that vascular tension is the effect of a surplus of uric acid, Dr. Haig proceeds to show that it, and its various sequelæ, may be conjured by measures that facilitate the elimination of the acid, notably by alkalies and the iodides. He professes, indeed, to have substantiated this action by numerous—shall we say—numberless—clinical and analytical observations. Everything turns on the reliableness of the test employed by him to ascertain the presence of, and variations in the quantity of, uric acid, and grave doubts have been expressed on this point, doubts of the value of which we will at once admit our incompetence to decide. We cannot, however, lose sight of the facts brought forward by Sir William Roberts at the last meeting of the Royal Medical and Chirurgical Society. This observer, basing his remarks on laboratory experiments, categorically denies that either alkalies or the iodides have any effect in mitigating the extreme insolubility of the salt of uric acid deposited in the cartilages in gouty arthritis. This salt, the biurate, is radically insoluble, while the uric acid in the blood exists in the form of quadriurates, which are strikingly soluble. The iodides have an action in reducing exaggerated blood-pressure as indisputable as it is immediate, and Dr. Haig maintains that this is because it favors the excretion of uric acid. To this it was objected that nitrite of amyl and kindred substanees bring about a similar fall of vascular tension in a space of time measured by seconds, hence that Dr. Haig's explanation is not admissible. The debate did not turn on questions of detail, for the observers are at variance on the most elementary points. Sir William Roberts, for example, is disposed to regard uric acid in a soluble form as a tolerably harmless impurity, and he points out that it is only when thrown out of solution inside the body as the biurate is outside the body (so to speak) as calculi or gravel, that it is productive of trouble. The question, as will be seen, is full of interest and is highly suggestive. It is just possible that our acceptance of the uric acid pathology of gout has blinded us to the real scope and nature of the production of gout, and that the acid is after all but an incident in the evolution of this protean disorder. Uric acid was formerly regarded as an intermediate, or imperfectly developed product in the formation of urea, but the more modern view is in favor of the two being essentially distinct

We cannot convert uric acid into urea, or urea into uric acid, and certain animals excrete one or the other in virtue of laws still unknown to us. Sir Dyce Duckworth mentioned, at the Clinical Society, that most of the errors that had crept into the pathology of gout were based on the results of investigations carried out in the dead-house and this ought to stimulate observers to pay more attention to its clinical manifestations.—*Hos. Gaz.*

THERAPY OF PHENACETINE.—Dr. John V. Shoemaker writes as follows in his work on Materia Medica, Pharmacology and Therapeutics (Vol. II): Phenacetine was originally introduced into medical practice as an antipyretic and subsequently was found to possess analgesic powers. In diseases attended by hyperpyrexia, such as rheumatism, pneumonia, typhoid fever, and phthisis pulmonalis, phenacetine exerts a very happy effect in about half the dose of antipyrine, the ordinary dose being from 3 to 8 grains. The mortality of the typhoid fever of children has been very materially reduced by the employment of phenacetine. The fall of temperature does not occur until half an hour after the drug has been taken, and the effect continues from four to eight hours. As an antipyretic, phenacetine is considered by many good authorities as the safest and most efficient member of the analine group. In epidemic influenza, phenacetine rapidly relieves the muscular pains and favors diaphoresis; the catarrhal symptoms subsequently require other remedies.

In ordinary colds, one or two 5 grain pills of phenacetine remove all symptoms. The combination of salol (or salophen) with phenacetine is especially useful in influenza and rheumatism. The analgesic effects of phenacetine are very marked in various forms of headache, including migraine and the headaches from eye-strain, having the advantage over antipyrine in not so frequently causing a rash. In the neuralgic pains of tabes dorsalis, in herpes zoster, and intercostal neuralgia, 5 grain doses, given every hour for three or four hours, usually afford complete relief and cause sleep. Phenacetine is extremely useful in chronic neuritis, and, according to Kater, is unsurpassed in the treatment of cerebral disorder due to excessive indulgence in alcoholic drinks. In whooping-cough ½ grain doses dissolved in 10 drops of glycerine are readily taken by children, and afford prompt relief, permitting sleep and ameliorating the attacks. In delirium, a dose of 10 grains of phenacetine will usually afford a quiet night. Mahnert considers phenacetine a specific in acute articular rheumatism, as it reduces fever, relieves pain, and lessens the duration of the attacks. It has been found useful in some cases of gonorrheal rheumatism, and is worthy of more extended trial in this rebellious affection. Given several hours before the time of the paroxysm of intermittent fever, it prevents the chill. In insomnia from simple exhaustion phenacetine acts admirably.—*Med. Rev.*

ANTISYPHILITIC TREATMENT: PROPER DURATION.—This is one of the most interesting and, as is well known, most disputed questions of medical practice. The physician is often puzzled in making a proper choice, and in the end, and after much hesitation, generally decides upon what in his experience has been the mean duration of treatment. But how often do we see patients who, after having been under medical supervision for a length of time, abandon the doctor to treat themselves—believing to have a sufficient experience to permit them to do so, and thus destroy their constitutions by a too-prolonged use of mercurials when the latter are no longer indispensable, yea, often even harmful!

In a communication to the Paris Société de Thérapeutique, Dr. Bontemps, of Saumur, supported the doctrine of Prof. Fournier, who asserts that in no case can the duration of the antisyphilitic treatment be fixed at less than three or four years. As, at the same time, the patients ought to observe in the medication certain alterations and periods of repose or dishabituation, Dr. B. has arranged the following table, a convenient *vade-mecum* for the practitioner:

First year:
- 6 months of mercurial treatment.
- 3 months of potassium iodide.
- 3 months of repose.

Second year:
- 2 months of mercury.
- 5 months of iodide.
- 5 months of repose.

Third year:
- 2 months of mercury.
- 5 months of iodide.
- 5 months of repose and sulphur baths.

Fourth year:
- No mercury.
- Potassium iodide, with intervals of repose and sulphur baths.—*Merck's Bulletin.*

TREATMENT OF CHLOROFORM COLLAPSE.—Prof. Koenig, of Gottingen, Germany (*La Semaine Medicale*), treats it by rapid compression of the cardiac region. The physican stands at the patient's left, and brings energetic pressure to bear between the ball of his right thumb, at the apex of the heart, and his left hand placed upon the patient's sternum. These are repeated 120 times a minute. This compression disgorges the blood from the dilated and over-filled right ventricle, and causes an artificial carotid pulse to begin. The pupils, always dilated in such a case, contract, and then, after a certain time, spontaneous

respiratory movements begin. Then one may suspend this treatment as long as the pupils remain contracted.—*Lancet-Clinic.*

ECLAMPSIA.—The general opinion now, in Germany, is, that eclampsia should be regarded as a result of poisoning of the blood by substances which circulate in the latter, causing symptoms, such as convulsions, rise in temperature, etc. It is not yet possible to decide whether the inflammation of the kidneys, always present, is primary, and the retention of substances which have been formed in the body itself is caused by this, or whether the poisonous substances are external invaders and give rise to nephritis, as they are excreted. In the most recent times, the opinion has gradually gained ground that the last theory is the true one, and an attempt has been made to seek in bacteria the noxious cause of eclampsia in pregnant women; nevertheless, up to the present time, these are only investigations which do not even give an appearance of probability. Ten years ago, Lochlein estimated the mortality at thirty-two per cent.; he now gives it at nineteen per cent.; Olshausen lost twenty per cent.; the Charité, eighteen and seven-tenths per cent.; Goldberg, twenty-four and seven-tenths per cent; so that the mortality can be fixed at about twenty per cent. The prognosis becomes worse as the number of convulsions increase. If more than fifteen convulsions, the prognosis is unfavorable. With frequent attacks, the prognosis is only favorable if the course of the affection is slow. The more severe each convulsion is, the worse is the prognosis. Eclampsia, with a temperature above 39° C. (101⅘° F.) has double the mortality of that without fever; in all cases with a fatal termination, the pulse is greatly increased in frequency, even after the first convulsion. The prognosis for children is, according to Lochlein, a mortality of thirty-seven and three-tenths per cent.; according to Olshausen, after subtraction of unviable children, twenty-eight per cent.; according to Goldberg, thirty seven and six-tenths per cent. The chief cause of this mortality is the number and quick succession of the convulsions; after twelve or fifteen attacks, the fœtus is usually dead. The unfavorable influence of large doses of narcotics, especially morphine, used for controlling the convulsions, is often observed. The first dose of morphine should be 0.03 grammes (½-grain). It is seldom that more than 0.06 grammes (1 grain) is used, altogether. Olshausen uses little chloral, and recommends chloroform only in those cases where it is desirable to control convulsions immediately.—*Annals of Gynæcology and Pædriatry.*

MASSAGE IN MEGRIM.—Mr. A. Symons Eccles has treated fourteen cases of severe megrim which were under his constant observation. So far as the drug treatment has availed he has found that largely diluted doses of hydrochloric acid given with or directly before food, followed by a capsule containing *b*-naphthol shortly after food, are useful in preventing the dyspeptic conditions which he believes are causative of paroxysmal hemicrania. If it is true that the occurrence of megrim is due to disordered digestion, in the sense that, coupled with sluggish portal circulation, there is an interference with the quantity or quality, or both, of the gastric secretion, that with this insufficiency of secretion there is also inactivity of the gastro-intestinal motor apparatus, permitting the generation, accumulation, and absorption of toxic matters in excess, so that the liver is unable to cope with them either by arrest, combination, or secretion with bile, it seems that the indications for treatment are to improve the circulation through the chylo-poietic viscera, and at the same time to aid the activity of the liver in its function as a policeman in guarding the system against the intrusion of evil-doing leucomaïnes and ptomaïnes, while such a diet is prescribed as shall be easily assimilated, demanding as little activity and richness of secretion as possible. These indications are met by: 1, rest in the recumbent position; 2, massage of the abdomen; 3, general massage of the whole body at least once daily; 4, the dietetic treatment—milk, green vegetables, etc.—*The Practitioner.*

ROSSINI'S MALADY.—The French and Italian medical press have recently taken much interest in the life and ailments of the great composer. The question of special import is: Was Rossini neurasthenic? Two facts are certain about his career. In the first place, he overworked himself. Within nineteen years he wrote thirty-six operas. This implies not only great mental work, but also severe anxiety, due to thirst for public favor and dread of adverse criticism. At the same time he went freely into society; he was also a very gallant gentleman, and in no way abstemious. Secondly, he suffered from a violent shock when 55 years old, for in 1848 he happened to be at Bologna, where he saw people shot down in the streets. This shock affected him for years. He had inclinations towards suicide; he no longer cared for meals, though his appetite and digestion did not fail, and he could not sleep. He complained of intolerable coldness of the hands. His physician prescribed opium, and he—perhaps wisely—would not take that drug. Professional jealousy, especially the increasing popularity of Meyerbeer, aggravated by the ill reception of the *Semiramide* at Florence, increased his ill-health. He often exclaimed: "What a spiritless, ignorant, filthy age we live in!" In respect to his malady, he said: "I suffer from all the ills women complain of—*il ne me*

manque que l' uterus" In age he recovered from his nervour symptoms, and composed a fine Mass in 1869. In fact, he reached an age when he ceased to trouble about the world and his rivals, and so fitted himself for a little more good work. —*Med. Rev.*

PERITYPHLITIS.—Dr. Saundby records a series of fifteen cases of perityphlitis, only one of which was subjected to operation, and this was the only fatal case. A large majority was males, and in six there was a tuberculosis history. The duration varied much, but in several a cure was established in less than three weeks. The treatment adopted was rest, free evacuation of the bowels, and hot formentations or the ice bag, with the addition in chronic cases of repeated blistering over the tumor. In one case spontaneous purging effected a cure without the aid of drugs. The remedies which Dr. Saundby mostly used were calomel, hot Seidlitz powders, and enemata. He does not believe that it is possible to distinquish between cases in which the appendix is really the seat of inflammation and those in which it is not; nor does he think it of the least practical importance. The occurrence of high temporature is no bar to successful medical treatment, as was evidenced by two cases.—*Birmingham Medical Review.*

IS EVOLUTION TRYING TO DO WITHOUT THE CLITORIS?—Dr. Robert T. Morris, in considering the above subject, advanced the following proposition:

1. The prepuce and the glans clitoridis are bound together by adhesions partly or completely in about 80 per cent. of all Aryan and American women.

2. Preputial adhesions are rare among negresses, and seem to occur only in a few of the individuals possessing a large admixture of white blood.

3. Highly domesticated animals do not present examples of the degeneration so far as the author's observations have gone.

4. When preputial adhesions are extensive, the glans clitoridis and the imprisoned mucous glands remain undeveloped, but they may develop later when the physician has separated the adhesions.

5. The failure of the embryonic genital eminence to properly develop the prepuce and glans clitoridis for perfect cleavage propably means that nature is trying to abolish the clitoris as civilization advances.

6. The degenerative process represented by preputial adhesions is characterized by the civilized types of homo-sapiens, in which we find decaying teeth, early falling hair, and imperfect cornea and eye-muscles.

7. Preputial adhesions, which involve small portions of the glans clitoridis, are of interest simply as anatomical curiosities.

8. Preputial adhesions involving a large part or the whole of the glans clitoridis cause profound disturbance, and are among the most pronounced of the peropheral irritations. They cause desire for masturbation, which leads to neurasthenia, and they are responsible for grave reflex neuroses.

9. Preputial adhesions probably form the most common single factor in invalidism in women. The clitoris is an electric button which, pressed by adhesions, rings up the whole nervous system.

10. The physician who fails to examine the female child for preputial adhesions neglects the most important single duty of his professional life.—*Annals of Gynæcology and Pædiatry.*

TREATMENT OF STRUMOUS CICATRICKS OF THE NECK.—Calot (*Rev. de Chir.*, May 10th) reports two cases in which he has obtained good results by operation. In the first case the whole of the scarred skin, which measured four centimeters by three, was dissected up, together with about one to two millimeters of the surrounding normal integument. This was removed, and the edges of the wound were freed for a short distance, and then completely united with sutures, no drainage of any kind being employed. The result was very satisfactory, the original scarred surface being replaced by a fine cicatrical line, which was scarcely visible. In the second case the same method was adopted with a similar good result. Calot proposes the same plan for scrofulous ulcers, and also for ulcers which are kept up by the presence of a suppurating gland. He advises total removal of the suppurating gland, along with the surrounding ulcerating tissues and skin, and then close suture of the wound and no drainage.—*Br. Med. Jour.*

DOBELL'S SOLUTION.—The following is the formula of this popular mixture:

℞—Acid carbolic pur., . . . ʒss.
Sodi bi-carbonat.,
Sodi borat., ... aa ℥j.
Glycerini, . . ℥j.
Aquæ, . . q. s. ad ʒxvj.—M.

It is a most excelient wash for the throat and nasal passages, and as a spray for diphtheritic throat it is very much used.—*Med. Rev.*

CHRONIC RHEUMATISM.—

℞—Liq. potassi arsenitis,. . . . ♏ ss.
Potassi acetatis, ... ʒ iij.
Vini colchi rad. . . . . ʒ ij.
Ext. cimicifuga, ... ♏ iij.
Ext. phytolacca, ... ʒ iss.
Aquæ menth pip. . . . . ʒ iij.—M.

Sig.—Two teaspoonfuls in water every four hours.—*Med. Summary.*

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DYSPEPSIA.

The general practitioner is constantly faced by patients complaining of this symptom, and it is probable that the most of us have each his own routine in the treatment of it. No symptom-complex calls for more careful discrimination on the physician's part, at any rate if he is going to meet with any uniform success in treatment based upon a clear conception of its pathology. Of course the first duty is diagnosis of the cause, and the second, closely associated with the first, is the recognition of associated conditions, such as anæmia in young persons, especially females, or malignant disease in those of advanced years, or the dietetic or hygienic errors, excess in eating, drinking, or smoking, which lie at the root of most cases. Into the question of diagnosis and pathology the scope of this article does not permit us to enter. As regards treatment, cases fall into two large classes: first, those in which flatulency is the main symptom, frequently most annoying at night, and accompanied usually by more or less dilatation of stomach, gaseous and acid eructations, and, especially in women, distention of the intestines with gas, "bloating of the stomach" as they call it. The cases not so characterized may be relegated to the second group.

The main difference in the treatment of these two classes lies in the prescribing of diet suitable to each case, and a rudimentary knowledge of our *fin-de-siècle* physiology should suggest the right dietary. Starchy, fatty, and other carbohydrate and hydrocarbon articles, if insoluble when swallowed, must lie unchanged in the stomach till passed on into the intestines. Proteid food stuffs are liquefied and made osmotic in the stomach. Flatulency indicates that one if not all three of the stomach functions is in abeyance, these three being absorption, motion on of its contents into duodenum, and digestion of proteids. If the power of motion onwards of its contents be impaired, time is allowed for abnormal fermentation processes, the gas evolved still further dilates the stomach, the free hydrochloric acid, the natural antiseptic of the stomach, is secreted in less amount just at the time it is most needed, and so the pernicious process acts and re-acts in its own favor unless nature be intelligently relieved.

Treatment should in all such cases be at least partially explained to the patient, that his own self-denial may be enlisted. He should be told that medicine in his case takes third place and that the dietetic and hygienic treatment are more important than the medicinal.

As to dietetic treatment, the main indication is to limit the foods not digested in the stomach, *i.e.*, the starches. Reduce to a minimum the quantity, especially, of bread and potatoes consumed; allow vegetables green and fresh, if not of a too bulky character, but forbid cabbage in any form except shredded fine and raw. Prohibit salt or warmed-over meats, fish and fish-balls, cheese, high game, pastry, pickles, strong condiments, sweets, and fats; in short, as far as possible, reduce the patient to the diet of half-cooked tender beefsteak and plain water. If the necessity exists, pre-digest even the proteids with papoid, or with pepsin and hydrochloric acid after the approved method we have learned of late for making beef-tea. If the patient can afford it, order peptonized beef-powder, or beef-cacao, or liquid peptonoids; or if necessary, even resort to partial alimentation by the rectum, supplying carbohydrates in this way, as described in a recent number of this journal. There are probably few cases, except in a consultant's practice, that do not present themselves for treatment before such a stage is reached as to make these latter measures necessary, unless it be as a consequence of acute gastritis.

As regards fluids, the difficulty is to find a suitable substitute for tea and coffee at meals. One may

mention milk of course, diluted if necessary, cocoa and chocolate, beef-cacao, *black* coffee (the harm being done by the adding of milk to a scalding decoction of the bean, which makes the compound more indigestible), and after the process of digestion is well over, say three hours after a meal, any of the ærated waters now so readily obtainable, such as Vichy, or Apollinaris, the carbonic acid given off being grateful to the usually irritable gastric *mucosa*. And one must not omit to direct, first thing in the morning, before the night-dress is removed, a tumblerful of either ærated or plain cold water. The sipping of hot water is frequently felt by the patient himself to be painful to the stomach, and therefore harmful. The cold water is of service only at this one period in the twenty-four hours. Its rationale seems to be, that the stomach is on rising in the morning as empty and well-contracted as it can be, and the entrance of the cold water excites vigorous peristalsis, causes excellent *lavage*, the only kind that patients as a rule can be in this country induced to submit to, and after flushing away the collected mucus and *debris* from the last meal, goes on to prepare the intestines for a normal evacuation in an hour or two after, aided by the peristalsis set up by the ingestion of breakfast. The simple measure of setting a tumbler of ice-water by the bedside, from which a sip might be taken when the patient rises wakeful and uneasy on his elbow during the night to give vent to the relieving and reverberating "yawp," will be found by many a sufferer most soothing to the heated stomach. And though it is rather out of its proper order, ice-cream must be mentioned as an excellent article of diet for such stomachs.

2. The medicinal treatment is simple. And here it may be said, in the face no doubt of disapproval from many an old practitioner, that an alkaline stomachic is bad treatment in every case except that of acute indigestion when the stomach imperatively calls for relief from the acid-fermenting mass it contains, which may be chemically neutralized if alkalies are given in sufficiently large doses, then evacuated thoroughly if emesis have not already occurred. The apparent success of alkaline stomachics, in trivial cases of pain after eating due in strong adults to dietary indiscretions, is due to their chemical effect upon the acid irritating contents, the *vis medicatrix naturæ* being capable of restoring function without further aid. But rational treatment calls for the temporary artificial supply of the stomach's own antiseptic, hydrochloric acid, which though acid, diminishes the hyper-acidity of which these patients complain, by preventing the abnormal fermentation which produces lactic and acetic acids, and even alcohol, in the stomach. In addition to hydrochloric acid, strychnine has a well-known action upon unstriped muscle through the nerves, and the motor functions of the stomach can be by it much improved. Then a simple or aromatic bitter is of proved value. So that for a routine prescription we know of nothing that produces better results, both upon appetite and function of stomach and intestines alike, than the following:

℞—Liq. strychniæ, ... ℥ jss.
Ac. mur. dil., ... ℥ v.
Tr. cinchonæ co.,
Syr. limonis, ... āā ℥ j.
Aq., ... ad. ℥ vj.—M.
Sig.—℥ ij. ex aq. p. c.

Constipation of course will probably, at any rate at first, need pil. aloin. bellad. et strychn. or cascara in addition to the cold water in the morning, and the strychnine after meals; but with the return to fair health and digestion the constipation, too, will in most cases be much improved. In many cases one drop of creasote with two or three drops of hydrocyanic acid, in water, has proved most effective in controlling the abnormal fermentation and flatulency. We do not think that creasote is used in this condition so often as it should be.

PROPOSED AMENDMENT TO THE PHARMACY ACT.

Our readers will be interested in noting the proposed changes in the Ontario Pharmacy Act, which affect the medical profession. The new Bill will, if it become law, make a serious change, and not for the better in the condition of a good many medical men in Ontario. The idea seems to be that a practising physician should not be the proprietor of a drug store. At any rate the proposed amendments will, we think, effectually shut out physicians from that business.

Section 31 of the old Act gives doctors the right

to carry on the business of a pharmaceutical chemist, *without passing the examination prescribed by the College of Pharmacy.*

The proposed amendment strikes out from this section the words "he shall not be required to pass the examination prescribed by the College of Pharmacy," and inserts in their place:

"He shall be at liberty to do so in places other "than incorporated Cities or Towns in the Prov- "ince of Ontario, so long as he employs an assist- "ant to manage or have charge of such business "who is a legally qualified Pharmaceutical Chem- "ist, and he shall be required to pass the final "examination for the degree of Phm. B. of the "Toronto University."

There are also three sections added to the old amended Act, one of which is as follows:

"36. No physician or medical practitioner in "any incorporated City or Town can become regis- "tered as a Pharmaceutical Chemist and carry on "business as a Chemist and Druggist unless he "ceases to practise as a Physician and Surgeon, "and unless he passes the final examination for "the degree of Phm. B. of the Toronto University, "and has in all other respects complied with the "requirements of this Act; provided, also, that "any medical practitioner who at the time of the "passing of this Act is lawfully engaged in carry- "ing on the business of a Pharmaceutical Chemist "under the provisions of this Section, may con- "tinue so to do by registering and complying with "all the other requirements of this Act."

These changes and additions need no comment. The profession will at once see that if they become law, physicians are practically debarred from carrying on the business of chemist and druggist.

Fancy a doctor who has been in the drug business, and in practice for twenty years, commencing to fag up for the final examination of "Phm. B. of the Toronto University." It goes without saying that he must go out of business. Then comes the generous offer that he may remain in business in places other than incorporated towns and villages, IF he keep a Phm. B. to look after it, and also becomes a Phm. B. himself. The conditions are too hard and he must in nine cases out of ten go out of business. It seems to us that some concerted action should be taken to see that the vested rights of medical men shall not be interfered with in this matter.

GOLDEN RULES OF SURGICAL PRACTICE—*(Times and Register)—Continued.*

THROAT..—In cut throats where the trachea has been opened, never neglect to remove all small fragments which hang loose in the trachea, or they will swell and eventually stop respiration.

Never leave a scald of the glottis a minute without tracheotomy tubes and knife placed at hand.

Do not neglect to warn your patient that the food may run away after tracheotomy through the tube for the first few hours.

Never neglect or think lightly of stab wounds of the neck.

In œdema of glottis due to syphilis, erysipelas, wounds of glottis, scalds, always have the tracheotomy instruments by the bedside.

Remember that in stab wounds of the upper part of the neck with arterial bleeding, there is an impossibility in many cases of distinguishing the exact source of the hæmorrhage, so numerous are the great vessels in that region. Apply a ligature to common carotid or external carotid if excessive.

Remember that tracheotomy and insertion of tube is especially necessary in wounded epiglottis or arytenoid cartilages.

Always secure your tracheotomy tube by knotting the tape. Little patients are apt to drag at a loop.

Remember diffuse cellulitis of the neck is very fatal.

Avoid sutures in cut throat, when the windpipe is opened.

Never put silk or silver ligatures into a wounded œsophagus; only use catgut.

Never forget that fractures of the laryngeal cartilages are of serious importance; the nearer the cords, the acuter the symptoms, the more decisive must be the treatment. If the fragments are displaced and the mucous membrane lacerated or perforated by the fragments (as testified by emphysema and blood spitting), tracheotomy must immediately be performed.

Never neglect in all sudden dyspnœa in a child to pass your finger into the upper part of the larynx to search for a foreign body.

Sanction no delay in removing a foreign body known to be in the larynx.—Invert.

Never hesitate in foreign bodies in trachea to invert the patient after the tracheal incision has

been made for the extraction of the foreign body. Never use forceps, rather invert the patient, or use a hook, bent probe, or wire snare, inversion, succussion.

But never invert unless you have your tracheotomy instruments ready, for the danger of instant suffocation, through lodging of the foreign body in the glottis, is great.

Never forget that lung disease invariably ensues on the retention of a foreign body in the bronchus.

WARNINGS TO PATIENTS AND THEIR FRIENDS.—Never forget to warn your patient that a Colles' fracture, even when treated with the greatest care, leaves some deformity.

Never forget to warn a case of fracture of the patella, that the fragments tend to separate.

Always warn your patient that there may be loss of power of deltoid after dislocation of shoulder if much pain is experienced, *i. e.*, the nerves have been pressed upon.

Always warn the patient or his friends of the possibility of suspension of growth, in injury to an epiphyseal cartilage.

Never forget to warn the parents of a hare-lip that the operation is usually inadequate.

Never forget to warn your patient that the loose cutaneous anal tags swell after an operation for piles, or he may suppose you have overlooked them.

Never forget to warn your patient that a Meibomian cyst fills with blood after being scooped out, or he will think that the operation has been performed in a slovenly manner.

Always warn the patient's friends that fluid taken by the mouth may run out through a tracheotomy wound for the first few hours, and that such is not due to a wound of the gullet.

WOUNDS.—Never forget that the surgeon who neglects to suture a nerve or tendon commits the same mistake as he who neglects to reduce a fracture.

Never forget the tripod of successful healing of wounds has three legs—ascepticism—rest—coaptation of edges.

Never forget that if an operation wound suppurates the fault lies with the operator or his assistants.

A SCHOOLBOY ON BONES.—The following essay on bones was actually written for a school exercise by a boy. It may be found helpful as an introduction to the science of osteology *(The Hospital Gazette)*. "Bones are the framework of the body. If I had no bones in me I should not have so much motion, and grandmother would be glad; but I like to have motion. Bones give me motion because they are something hard for motion to cling to. If I had no bones, my brains, lungs, heart, and large blood-vessels would be lying around in me, and would get hurted, but now the bones get hurted, but not much, unless it is a hard hit. If my bones were burned I should be brittle, because it would take the animal out of me. If I were soaked in acid I should be limber. Teacher showed us a bone that had been soaked. I could bend it easily. I would rather be soaked than burned. Some of my bones don't grow close to my body, snug, like the branches of a tree, and I am glad they don't, for if they did I could not play leap-frog and other nice games I know. The reason they don't grow snug to my body is because they have joints. Joints is good things to have in bones. There are two kinds. The ball and socket, like my shoulder, is best. Teacher showed it to me, only it was the thigh-bone of an ox. One end was round, smooth, and whitish. That is the ball end. The other end was hollowed in deep. That is the socket, and it oils itself. It is the only machine that oils itself. Another joint is the hinge joint, like my elbow. It swings back and forth, and oils itself. It never creaks like the school-room door. There is another joint that don't seem like a joint. That is in the skull. It don't have no motion. All my bones put together in their right places make a skeleton. If I leave any out, or put any in their wrong places, it aint no skeleton. Cripples and deformed people don't have no skeletons. Some animals have their skeletons on their outside. I am glad I aint them animals; for my skeleton, like it is on the chart, would not look well on my outside.

CHLORAL IN OSTEOMALACIA.—Dr. M. Petrome, of Naples *(Wiener Med. Presse—Cincinnati Lancet-Clin.)*, knowing that this disease is produced by a nitrate-forming bacteria, which is rapidly killed by chloroform, conceived the idea to administer chloral internally in the treatment of the affection, as this drug produces chloroform as a by-product after its introduction into the system. The writer thus treated a fifty-year-old vii-para, who had always been well and healthy,

and who, after a contusion of the left lower limb, was seized with violent pains in that extremity. A few months later, during pregnancy, she was attacked with pains in the pelvic bones, the ribs and vertebræ, which increased in intensity and were followed by osseous deformity. As he first saw her her trunk formed a shapeless mass, the vertebral column was inclined forwards. She was not as tall as before, the pelvis showed the characteristic changes of osteomalacia, only the cranial and facial bones being uninvolved. The spontaneous pains from which the patient suffered constantly were increased on pressure. Walking or standing was impossible, even the slightest movement in bed caused her terrific pain. Besides this, she was tortured by attacks of coughing and hiccough. The urine contained neither sugar nor albumen, but traces of propeptone, and quite a large quantity of nitrous acid. He commenced treatment by giving two grammes (30 grains) of chloral hydrate, per diem. After three days the pains had greatly decreased in intensity, the urine was free from propeptones, and showed a decrease in nitrous acid. On the fifth day the urine was normal. At the end of the first week the patient was able to leave her bed, clothe herself and take a few steps, without assistance. The spontaneous pains had nearly entirely disappeared, as well as the coughing and the hiccough. In fourteen days she could be regarded as cured. The treatment was continued for eight days longer, three weeks in all. At present the patient is well, has no pains, ascends stairs and makes all sorts of movements without the slightest difficulty. The writer ascribes the curing of this case to chloral, respectively, to the chloroform alone, and in those cases which have been successfully treated by castration, he attributes the result to the chloroform, used anæsthetically, rather than to the operation itself.

Syphilis of the Cerebral Arteries.—The Lettsomian lecture delivered before the Medical Society of London, England (*H. s. Gaz.*), on Monday last, by Dr. Bristowe, takes us back to a time when the influence of syphilis in determining arterial diseases was apparently not even thought of. Case after case was observed in which the most extensive disease of arteries, large and small, was associated with a history of syphilis, but it was long before even Dr. Bristowe timidly suggested that they might possibly stand to each other in the relation of cause and effect. The lesions were often of extraordinary severity; the aorta was sometimes reduced to an almost impervious canal, in other cases the pulmonary arteries hardly admitted a bullet probe, and in a large proportion the principal arteries carrying blood to the brain had been rendered impassable. A noteworthy feature in several of the cases narrated by the lecturer is that the symptoms heralding the advent of this terrible complication supervened within a few months, is, at any rate, within a year or two of the primary infection. It is impossible to avoid the conclusion that arterial disease of the gravest description and extent, may occur at any stage of syphilis, and is not, as is often assumed to be the case, only or principally to be met with among the tertiary phenomena. Another point to which attention was called is that the virus does not act exclusively on the large vessels, for all large enough to have a distinctive name are occasionally affected, andthis fact justifies the inference that these changes may probably affect even microscopic arteries, determining atrophic lesions in the tissues supplied by them less in severity only because less in extent. We are at present hopelessly in the dark as to why in a certain proportion of the cases the arterial system is singled out for degenerative processes consequent on syphilis, and we are fain to fall back on the time-honored explanation (?) of a selective action due to the inherent liability to degenerative change on the part of certain tissues—the particular tissues varying according to the individual.

Dr. Bristowe formally repudiated the view that the tertiary lesions of syphilis are not infective. Admitting that they are less so than those of the first and second stages, he points out that this may be due to the fact that the tertiary lesions are more strictly localized, and are, moreover, usually situated in positions not lending themselves readily to the transmission of the virus. The cases quoted of infection by tertiary lesions were not very conclusive, because they involve the acceptance of patients' statements—a disturbing factor in deciding questions of this magnitude.

The Contagiousness of Cancer.—During the

last few years, physicians and surgeons *(Concours Med.)*, recognizing their inability to cope single-handed with the two great scourges of mankind, tuberculosis and cancers, have joined their forces to fight with a greater chance of success. The treatment and prophylaxis of tuberculosis have occupied the minds of the best men of the medical profession, and the causes of the disease seem to be well known, while the study of cancer is still surrounded with countless mysteries. For many years careful observers have noted the transmission of cancer by heredity. Modern histologists are extremely divided upon the microbiological question of cancer. In some cases this disease seems to be infectious; it penetrates into the organism through some solution of continuity, at first being localized and later giving rise to secondary formations by a series of successive growths. Cancer is inoculable from one animal to another of the same species. It is probably inoculable from man to an animal. Many reported facts seem to prove that cancer is contagious. The contagion may take place through direct inoculation and also by means of soiled linen and clothes. M. Dave has mentioned the history of a young man, thirty-eight years old, who died of cancer of the tongue. A few years previous to his death, his father-in-law had died of an epithelioma, which after appearing on the ala of the nose, had spread over the face and superior maxilla; contagion evidently took place through the son-in-law smoking the pipes used by his father-in-law. The incubation of cancer varies from several months to a few years. About 72 per cent. of the cases die within five years from the date of the time of infection. Contagion is not common, however, for it requires a predisposition, fortunately not very frequent.

THE TREATMENT OF PUERPERAL FEVER.—The paper on this subject by Dr. Lapthorn Smith in the *N. Y. Jour. of Gynecology and Obstetrics* is fertile in suggestive and advanced ideas. He urges that when there is the slightest rise of temperature, the clean doctor or the clean nurse should with a clean syringe give a vaginal injection of hot water with or without permanganate of potash. The vaginal douches should be repeated every eight hours. If in spite of this the temperature has not fallen within twenty-four hours the uterus must be washed out with plain hot water and an iodoform-gauze drain be lightly packed in the uterus, the end being left like a lampwick coiled up in the vagina. If the temperature still keeps high after twenty-four hours we should draw down the uterus gently and thoroughly curette, and again wash out and drain with gauze. From the very first rise of temperature until the patient has recovered we should keep the great main sewer of the body, namely, the intestine, constantly flushed by means of small doses of sulphate of magnesia so as to carry off the ptomaines as much as possible. The only drugs required for internal use are quinine and alcohol. The coal-tar antipyretics by bringing down the temperature while the disease is rapidly progressing mislead us into false security so that precious hours may pass unutilized. Besides, the coal-tar group paralyze the heart, on the endurance of which the life of the patient greatly depends. If in spite of all that we have done the temperature continues to rise, and the life of the patient begins to be clearly in danger, let us explore the abdomen and remove the cause, even if this necessitates the removal of the uterus, before pyæmia or general peritonitis ensue.

THE EFFECTS OF ACIDS ON THE FUNCTIONS OF THE STOMACH *(Centralbl. f. Klin. Med.)*—1. Acids throw down a considerable precipitate of mucus.

2. They increase the cellular elements of the gastric contents.

3. Their introduction is followed by butyric acid reaction, most marked after hydrochloric acid.

4. Larger quantities of the acids result in considerable effusion of bile into the stomach.

5. They stimulate the secretion of pepsin, but have no influence upon the secretion of hydrochloric acid.

6. Their long-continued administration is followed by marked diminution of the secretion of hydrochloric acid.

7. Even in large quantities, hydrochloric acid produces no gastric disturbances. On the contrary, a continued administration of the acid is attended with a feeling of well being.

8. The difference in the effect between acids and the alkaline salt on the gastric functions consists in the fact that the alkaline salts dissolve the mucus and decrease the secretion of pepsin, while

the acids precipitate the mucus and increase the secretion of pepsin. The disappearance of the alkaline salts from the stomach is followed by a decided increase of the hydrochloric acid secretion. This does not occur, or only to a slight degree, in the case of acids. Both the acids and salts, in large quantities in continued use, have the same effect in lowering the activity, and finally in destroying the function of the glands secreting hydrochloric acid.

BACTERIOLOGICAL NOTES.

COMPILED BY E. B. SHUTTLEWORTH.

Death Point of the Cholera Spirillum.—It has occurred to the writer that some of the information afforded by Dr. Sternberg's exhaustive paper on Disinfection at Quarantine Stations—to which allusion was made in our last number—may serve a useful purpose, for reference, if put into tabular form. The figures herewith appended give the death point of the spirillum, after exposure to the agents indicated:

DIRECT SUNLIGHT.	
Bouillon culture, in test tubes. (Sternberg)	5 hours.
Bouillon culture, on writing paper. (Wilson)	2 "
DESICCATION.	
Culture, spread on glass. (Koch)	3 "
Culture on blanket, in sun and air. (Sternberg and Wilson)	4 "
Culture on blanket, in dark closet. (Sternberg and Wilson)	48 "
MOIST HEAT.	
Bouillon on cotton, at 52° C. (125.6° F.). (Jenkins and Sternberg)	10 min.
Bouillon on cotton, at 60° C. (140° F.). (Jenkins and Sternberg)	very brief
DRY HEAT.	
Bouillon on blanket, at 60° C. (Wilson)	45 min.
Infected woolen garments, at 80° to 100° C. (Sternberg)	30 "
VARIOUS MEDIA.	
White wine. (Imp. B'd Health, Germany)	5 "
Red wine. " " "	15 "
Cider. " " "	20 "
Cold coffee. " " "	2 hours.
Pilsener beer. " " "	3 "
Tea, 4 per cent. " " "	1 "
Tea, 3 per cent. " " "	24 "
Tea, 2 per cent. " " "	96 "
Milk, unsterilized. " " "	24 "
Smoked and salted herring. " "	24 "
Confectionery, chocolates, almonds. "	24 "
Strawberries. " " "	24 "
Dried fruits. " " "	48 "
Fresh fish and shell fish. " "	48 "
Peas. " " "	5 days.
Cucumbers. " " "	7 "
Cherries, sweet. " " "	7 "
Cherries, dry. " " "	5 "
Cherries, sour. " " "	3 hours.
Bouillon, containing 50 per cent. beet sugar. (Sternberg)	48 "
Bouillon on cotton between sacks beet sugar. (Sternberg)	4 days.
Bouillon on cotton placed in beet sugar. (Sternberg)	48 hours.
Copper and silver coins. (Uffelmann)	30 min.
Dry hand. "	2 hours.
Fabrics, apparently dry. "	4 days.
Pages of printed book. " alive after	17 hours.
Writing paper in envelope. " "	23½ "
Dry hand. " "	1 "
Smoked fish. " "	4 days.
Butter, slightly acid. " "	6 "
Roasted meat, under bell jar. " "	7 "
Rye bread, under bell jar. " "	7 "
Moist fabrics. " "	12 "
Cocoa, infusion, 1 or 2 per cent. (Imp. B'd Health, Germany)	7 "
Milk, sterilized. " " "	9 "

It is needless to point out the many applications that may be made of the details afforded by the above table. One fact may, however, be emphasized—the low thermal death point of the cholera spirillum. It is definitely stated, by Drs. Jenkins and Sternberg, that the organism is destroyed by exposure, for a very brief period, to a moist heat of 140° F., and in thirty minutes by a dry heat of 176° to 212° F. Prolonged contact with steam under pressure, as commonly used, is needless, provided the heat penetrates the articles to be disinfected. A high dry temperature, which in most cases utterly destroys clothing, is also unnecessary. The employment of this agent, as commonly directed, is a waste of energy. As Dr. Sternberg says, it is like using a sledge-hammer for the purpose of killing a mosquito. The practice originated in the experiments of Koch and Wolffhugel, in 1881, who found a temperature of 284° F., maintained for three hours, to be necessary for absolute sterilization. It must, however, be remembered that these gentlemen experimented on spore forming organisms, as *B. anthracis*, *B. tuberculosis*, or *B. subtilis*, which are exceedingly resistant, though not to the same degree. The assertions in regard to these have been made generally applicable, and, apparently, unnecessarily so. The writer, when in the United States during the epidemic, last year, had the pleasure of seeing some of the experimeuts then being carried on by Drs. Sternberg and Wilson, in the Hoagland Laboratory, Brooklyn. The investigation was continued for some months, and has been very thorough. Dr. Sternberg's position, as Deputy-Surgeon General of the U. S. Army, and his high reputation as an authority on bacteriology, give additional weight to his assertions, which, though contrary to the notions entertained by some, are entitled to be received with confidence.

THROUGH the courtesy of His Honor the Lieut.-Governor of Ontario, a communication has been received by Dr. J. Gibb Wishart, Secretary of the Ontario Medical Association, covering an invitation from the Central Committee of the Eleventh International Medical Congress, meeting in Rome on the 24th of September, 1893, to the President and members of the Ontario Medical Association to appoint delegates to this Congress. Members who desire to attend this Congress should communicate with Dr Wishart.

At a meeting of the Windsor Physicians and Surgeons Association, held Feb. 13th, 1893, the following resolution was unanimously adopted:

Whereas a number of Medical Practitioners are endeavoring to secure legislation in a manner subversive to the usefulness of the Ontario Medical Council. We who daily contrast the Medical legislation of Michigan with the efficient legislation of Ontario, beg to express our entire confidence in our Medical Council. And we beg to urge that any change in legislation that we may desire, should be brought about only through the Council by the representative whom we elect.

Books and Pamphlets.

SYPHILIS AND THE NERVOUS SYSTEM. By W. R. Gowers, M.D., F.R.C.P., F.R.S. Philadelphia: P. Blakiston, Son & Co. Toronto: Carveth & Co. 1892. $1.

This is a revised reprint of the Lettsomian lectures for 1890, delivered before the Medical Society of London. The name of the author is sufficient warranty for both the scientific and practical value of the work. It deals exhaustively with the subject and will be most interesting to those engaged, either in general practice or in studying the diseases of the nervous system.

HYGIENE AND PUBLIC HEALTH. By Louis C. Parkes, M.D., D.H.P. Lond. Univ.; Lecturer on Public Health at St. George's Hospital, etc. Third edition. Illustrated. Philadelphia, 1892: P. Blakiston, Son & Co. Toronto: Carveth & Co. $2.75.

This new edition of Parkes' standard and well-known work has been thoroughly revised, and enlarged. Among new matter introduced are the subjects of Smoke prevention by mechanical appliances, Weather observations and Cyclonic systems, and Epidemic influenza. The chapter on Diphtheria has been re-written, and other chapters dealing with Etiology and Bacteriology have been brought up to date. The work is classical, and we can heartily recommend it to those engaged in the study of hygienic science.

A MANUAL OF CLINICAL OPHTHALMOLOGY. By Howard F. Hansell, M.D.; Lecturer on Ophthalmology in Jefferson Med. Coll., etc.; and James H. Bell, M.D., Ophthalmic Surgeon to the South-western Hospital, etc.; with 120 illustrations. Philadelphia: P. Blakiston, Son & Co. 1892. $1.75.

This work does not treat very fully of the subjects contained in it, being of the nature of clinical lectures, and practice. It is concise. It deals with the anatomy, physiology, refraction, and common diseases of the eye, in a pointed and practical manner, which makes it of great value to the general practitioner and student. The illustrations are good, and altogether the work undertaken is well done.

DISEASES OF CHILDREN. A manual for students and practitioners. By C. Alexander Rhodes, M.D.; Instructor on Diseases of Children, New York Post-Graduate Medical College. Philadelphia: Lea Brothers & Co. Toronto: Carveth & Co. 1892.

This is one of the student's Quiz series, compiled from Keating's Encyclopædia of Diseases of Children, J. Lewis Smith, Eustace Smith, Jacobi, Meigs, Pepper and various other authors. It is in convenient form for students and will be useful for rapid reference by practitioners.

ANATOMY. A manual for students and practitioners. By Fred. J. Brockway, M D.; Assistant Demonstrator of Anatomy, Coll. Phys. and Surgs., New York; and A. O'Malley, M.D., Instructor in Surgery, New York Polyclinic. Philadelphia: Lea Bros. & Co. Toronto: Carveth & Co. 1892. Pp. 376.

The authors have selected from the larger works of Gray, Quain, Henle, and others, the Essentials of anatomy, such as will be most useful to the student and practitioner. Illustrations have been introduced. Both English and metric measurements have been given. A useful addition is a glossary, which will certainly aid students in acquiring a correct pronunciation of anatomical terms. A useful book.

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Original Communications.

TWO CASES OF ACUTE SPINAL PARALYSIS.*

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We had during the past year two cases of acute spinal paralysis in neighbouring beds, which exhibited many interesting features. The first, although resembling in many points Landry's ascending paralysis, presented some symptoms which distinguished it from that disease.

P. H., æt. 23, dry goods clerk, was admitted to the hospital Dec. 21, 1891. He was quite well on Thursday, Dec. 18th, and slept well that night. After waking on Friday morning on rubbing his toes against the blanket, he noticed a tingling numbness which he described as a sensation similar to that caused by wearing tight boots or by a blow on the funny bone. On getting out of bed he felt a peculiar stiffness in the calves of the legs, which continued during the day. While walking to the store in the morning he felt a tingling and numbness in his fingers—which he then supposed was due to cold. These peculiar sensations did not pass off when he resumed work—he was engaged making up parcels to be taken by the porter. Between 9 and 10 o'clock that morning, having a spare hour, he and another employee commenced a game of cosolough, in which checkers are flipped by the middle and fore-finger to the centre of the board. When patient attempted he could not flip them for want of power in his fingers. He also experienced a difficulty in tying parcels. Notwithstanding these symptoms, he continued at work until closing time. He then walked home, a distance of about three-quarters of a mile, ate his supper as usual and slept well that night. On the following morning (Saturday) he was unable to dress, and went back to bed. At ten o'clock he tried again to get up, but failed. At noon he was helped in dressing, walked to the water closet in the back yard and, when returning, lost all power of his limbs, and fell down. He was assisted to the house and placed in bed, and remained in this condition until the evening, when he was seen by a doctor. His temperature was then 100°. On Sunday he was sent to the hospital.

These notes were taken on Monday. The patient is well nourished and presents a healthy appearance. There is motor paralysis of both upper and lower extremities—more marked on the left than on the right side. The left arm could only be moved by the shoulder muscles. The fingers of the right hand could not be moved, but the patient had power to produce slight contractions in the extensors and flexors of the forearm. The lower extremities below the knees were completely paralyzed. He was able, however, to flex the thigh, the right more than the left.

The muscles of respiration and deglutition were slightly affected. The superficial reflexes were increased, with the exception of the epigastric, which was absent. The patellar tendon reflex was absent. The faradic current showed electro-contractility normal in the upper but diminished in the lower extremity. The pupils are slightly dilated, but respond equally to light. There is no disturbance of tactile sensation, in fact it is very acute. He has a slight feeling of numbness but no pain. There is some soreness over the muscles of the calf, but no tenderness over the nerve trunks. There is no mental disturbance, no headache, vertigo, nor loss of memory. There is no loss of power over the bladder or rectum. The stomach is somewhat dilated and the bowels constipated.

The respirations are 28 to the minute, somewhat laboured; pulse 80°, temp. normal; heart hypertrophied. The apex beat downwards and towards the left. The pulmonary second sound is accentuated, and a distinct systolic murmur is heard at the apex. Urine slightly high colored, Sp. Gr. 1032. No albumen, sugar or bile. Chlorides in excess. Urates and phosphates abundant.

Dec. 31st.—During the ten days since admission the symptoms have gradually become more

*Read before the Toronto Clinical Society, Jan. 1893.

aggravated. He has complained of dyspnœa and has had spells of gasping for breath. The breathing, however, is not abdominal, as the ribs move freely. He has been much troubled with insomnia. For the last few days he has been lifted into a chair and allowed to remain there two or three hours. In this way he experiences much relief. The superficial reflexes, which were at first increased, are now absent. There is no electro-contractility below the knees and elbows. The temperature has been normal since the first day after his admission. He has had at all times complete control over both the bladder and rectum. The treatment has consisted principally in the administration of bromide and ergot. He has to-day, for the first time, expressed himself as feeling better.

Feb. 1st.—During the month of January patient's general health improved steadily, but the paralysis remained, with perhaps a slight improvement. A moderate amount of wasting has taken place in the muscles of the legs and forearms. Electro-contractility is absent over these muscles. The reaction by the galvanic current varies in the different muscles. As a general rule, the irritability is increased. The qualitative reaction in some is normal, while in others it is abnormal.

April 1st.—Patient has continued to improve steadily during February and March. His general health is now good and all the functions are normal. The difficulty of breathing and swallowing entirely passed away six weeks after his admission. He is able to flex and extend the fingers of both hands, can draw his arms across the chest by means of the pectoral muscles, He is also able to adduct, flex and rotate the the thighs, but he cannot stand or walk. The muscles of the back are becoming stronger. Sexual desire which was absent in the early part of the illness is now returning. There is marked hyperidrosis. The electro-contractility is slowly returning and the galvanic reaction is now of normal quality. During his recovery there has been an improvement in groups of muscles rather than in those of a whole extremity.

June 1st.—Patient continues to improve. The muscles of the extremities are becoming more developed, but the patient is still unable to stand alone. The treatment has latterly consisted of daily massage and the use of the galvanic and faradic currents. The prospect is that the patient will recover perhaps completely. There is no wasting or settled paralysis in any particular extremity.

Cerebral disease can at once be excluded by the complete absence of linear symptoms. A lesion in the brain which would produce such extensive loss of power, would of necessity be accompanied by very grave symptoms. The electrical reactions would also differ from those shown in this case. Functional paralysis is positively excluded by the changes in the electrical reactions. The diseases of the neuro-spinal system which we would naturally consider are anterior polio-myelitis, acute central myelitis, transverse myelitiis, multiple neuritis.

Transverse myelitis might at once be excluded, as in that case bladder and bowel symptoms would be present, and there would be more or less anæsthesia. As the lesion would require to be high up in the cord, tendon reflexes would be increased, and electrical reaction would be exaggerated.

In acute central myelitis there would be more or less loss of sensation and some disturbance of the function of the bladder and bowels.

Was this a case of Landry's paralysis? For the first week I was inclined to think it might be an example of that disease. The slightly elevated temperature which existed during the first day or two was not, in my opinion, sufficient to exclude Landry's paralysis, as the fever might have arisen from some inter-current affection. When, however, the quantitative and qualitative changes in the electrical reactions became evident, I could no longer consider it a case of that disease. Diphtheritic paralysis is also excluded. There was no previous history of diphtheria, nor did the disease commence as one of diphtheritic paralysis.

It is scarcely possible to consider this a case of multiple neuritis. There were very few sensory disturbances, nor was there any tenderness over the nerve trunks. If it were possible to have such an extensive lesion of the nerve trunks and the sensory fibres at the same time not affected, this might be put under the head of neuritis. There is much less atrophy than in the majority of cases of anterior polio-myelitis, and the case has not followed the ordinary course of that disease.

Taking the whole case into consideration, I am inclined to think that the anterior cornua of the gray matter have been affected and the motor fibres leading from the multipoliar cells.

Before further discussing the pathology, I shall read you the history of my second case.

R. D., æt. 57, was admitted to the hospital, March 28th, suffering from severe pains, and lameness of the back, which we thought was probably of a rheumatic character. In February the patient had a severe attack of la grippe, from which he did not make a complete recovery. For some years he has been employed in a distillery and has taken a glass or two of whiskey a day. He is of full habit and has a marked acne rosaceæ. For the last few years he has been employed as an engineer. There is nothing of importance in his family history. Patient has suffered for the last six years with pain and stiffness of the back. This became much worse after the attack of la grippe, so that he was compelled to enter the hospital. After his admission various anti-rheumatic remedies were given, such as soda salicylate, alkalies, salol, etc., without any success. Hypodermic injections of $\frac{1}{8}$ gr. of pilocarpine were then ordered to be given each evening. Profuse perspiration was induced and the pain ank soreness of the back very much relieved. After four injections patient was seized with an acute attack of diarrhœa accompanied by pharyngitis. The temperature ranged between 99° and 100°. Pulse increased in frequency. The hyopdermic injections of pilocarpine were discontinued as the pain was relieved and it was thought he might have taken cold after the heavy sweating. Under medicinal and dietetic treatment he recovered so that at the end of a week he seemed to be in his usual health.

On April the 28th, three or four days after his recovery from the diarrhœa, and ten days after the last hypodermic injection of pilocarpine, an entirely new set of symptoms appeared. He felt first a tingling in the fingers of both hands, which was followed by pain which kept him awake during the night. On the following day, April 29th, the pain had disappeared, leaving a smarting sensation in the hands and arms, extending as far as the shoulders. In the afternoon he felt a tingling in the toes, extending upwards to the knees. This morning in attempting to rise he found he could scarcely stand up, owing to the weakness of his legs. He was not able to go to the bath-room without assistance. To-night he is unable to stand up, or to put his hands to his head. It was neceessary to use the catheter to empty the bladder.

May 1st—All motor power is completely gone. Paralysis of the bladder; urine normal in character. I visited the patient in the afternoon and found him quite sensible and free from pain. There was complete paralysis of the upper and lower extremities, also of many of the trunk muscles. Respiration was altogether diaphragmatic. Sensation was apparently normal. During the evening the signs of bulbar paralysis became manifest; respiration was impeded, and deglutition became difficult; coma ensued, and he died shortly after midnight. There was almost complete absence of sensory disturbances during the illness.

I regret very much that, owing to the short duration of the illness, and to my being otherwise engaged, no electrical examinations were made. A post-mortem was made within twelve hours after death. Upon opening the spinal canal the meninges were found normal. There was no excess of cerebro-spinal fluid. After removing the cord and making cross sections, the grey matter was found to present a distinctly pink color, which I was able to demonstrate to the students at the time. The grey matter of the lumbar and cervical regions were principally affected. Nothing abnormal was found in the spinal column; nor was there anything special to note about the internal organs. Upon microscopical examination minute extravasations were found in the anterior cornua, both in the cervical and lumbar regions. Inflammatory exudation and destruction of nerve cells was made evident. In all the sections the inflammatory process appeared at its greatest intensity in the anterior cornua. We have, then, in this case, an acute myelitis affecting principally the grey matter, and especially the anterior cornua.

It was a singular coincidence that this patient occupied the next bed to that of the patient I just described. So far as the clinical history goes, there is much similarity between the two cases, and it is not difficult to believe that both may have been due to the same pathological process, but that in the last the inflammatory action was more severe and more extensive than in the first. Beyond the difference in intensity, the symptoms in both cases were very similar. In the second there was a paralysis of the bladder, a condition not present in the first.

Now, what is the nature of this pathological

process? The most reasonable conclusion is that there existed in both cases a toxine in the blood, which especially attacked the cord, in all probability the result of bacterial invasion. This toxic agent, acting similarly to such medicinal agents, as strychnine, etc., attacked the cord, thus producing the grave condition already described.

Friedlander, in a recent article, expresses the opinion that Landry's acute ascending paralysis, acute anterior polio myelitis of the adult, acute bulbur paralysis, some cases of Basedow's disease, tetany, diabetes insipidus, and diabetes mellitus, are of rheumatic origin. In these cases it would certainly appear that there existed some relation between rheumatism and the pathological processes which produced such grave symptoms.

In the first a diseased condition of the mitral was present, which was probably of rheumatic character, and in the second, obstinate rheumatic pains existed in the back for some weeks previous to the onset of the fatal attack. I would certainly treat similar cases with soda salicylate, hoping in that way to do more good than by a system of medication directed to the condition of the spine.

A CASE OF CLUB FOOT—OPERATION.*

BY A. B. WELFORD, M.D., WOODSTOCK, ONT.

In April, 1891, L. H., a young man 21 years of age, presented himself at my office with the request that I should "cut his foot off" for a deformity, which was a great hindrance to his calling, a machine wood carver.

He gave the following history:—When three years of age he was playing in the grass and accidentally ran against the sharp edge of a scythe, severing the muscles on the outer part of the leg below the knee, inflicting a wound several inches long. There had been no attempt to unite the wound, as the family physician feared "lock jaw." The wound was allowed to heal by granulation leaving the ends of the muscles and nerves separated and their functions impaired.

A few months after the wound had healed the foot began to gradually turn in, until it had become permanently deformed and the bones ossified in their abnormal position. Having persuaded him not to have it removed, as that could easily be done later on, the operation known as Phelp's was proposed and done on April 13th, 1891.

After the application of Esmarch's bandage, and the usual aseptic precautions had been taken, an incision from a point a short distance in front of the tip of the internal malleolus extending downwards to the inner margin of the sole of the foot, dividing everything down to the bone, in succession, the Plantar tissue, tibialis anticus tendon, tibialis posticus flexor communi digitorum, flexor longus pollicis, the belly of the flexor brevis digitorum, the abductor pollicis, the Plantar fascia, the long Plantar ligament, the deltoid ligament, the nerves and both external and internal Plantar arteries. There was so much tension of the skin of the sole that the original incision had to be enlarged to the external edge of the foot. The vessels being ligatured with cat-gut an attempt was made to rectify the position, which was found only partially successful. The head of the astragalus and almost all the scaphoid was chisled out in the shape of a wedge, the base being external. It was still found impossible to get the foot into any decent shape, for it seemed the greatest hindrance to the rectification was on the outside; consequently an incision was made from a point a little in front of the external malleolus downwards about two inches, and a large wedge consisting of a piece of the os calcis and cuboid bones was removed, the deformity being much more easily remedied now. Although this is somewhat a departure from Phelps' operation, the latter was followed until it was found that it could not be a success without the external osteotomy; the tendo-achilles of course being cut.

In fact I believe that in this particular case as good a result could have been obtained without any bone being removed from the internal side at all (*i. e.* from the astragalus and scaphoid) but simply to have dis-articulated and done the osteotomy on the outside through the anterior part of the os calcis and posterior part of the cuboid. Over Skede's dressing and sublimated gauge, a plaster bandage was applied before the removal of Esmarch's bandgage. The temperature never rose above 100°, and that for only two days, and pulse not above 90°.

On April 22nd, thirteen days after the oper-

*Read before the Ontario Medical Association, Toronto, June 1st, 1892.

ation, a profuse hæmorrhage took place, the patient being perfectly blanched and in a condition of syncope. On 11th May, twenty days after the last hæmorrhage, and one month after operation, another severe hæmorrhage took place. The cast was at once removed and the hæmorrhage was found to come from the posterior tibial artery which may have been accidently punctured during the tenotomy of the tendo-chilles. Or ulceration may have occurred from the great amount of tension that it was subjected to; the vessel was ligatured and the bleeding ceased. The large gaping wound was found to be well filled by organization of the blood clot, and nearly skinned over. In ten days more the wound had entirely healed; he now walks without any support, and only a slight perceptable limp, the result being highly satisfactory.

The somewhat different proceedure in this case from that ordinarily described as Phelp's operation, and the secondary hæmorrhage occurring so long after the operation, I thought might be sufficiently interesting as to afford me an excuse for having read this paper before this Association.

Selected Articles.

CERTAIN ORGANIC EXTRACTS: THEIR PREPARATION AND PHYSIOLOGICAL AND THERAPEUTICAL EFFECTS.

Since the experiments of Brown-Séquard, more than three years ago, observers in various parts of the world have been engaged in similar investigations, not only with the juice of the testicles, but with extracts obtained from other glands of the body. So far, however, as I am aware, no systematic researches have been undertaken along the line of those, the details of which I am about to give, and with which I have been occupied almost continuously since the summer of 1889.

Organic beings possess the power of assimilating from the nutritious matters they absorb the peculiar pabulum which each organ of the body demands for its development and sustenance. The brain, for instance, selects that part which it requires, the heart the material necessary for its growth and preservation, and so on with the liver, the lungs, the muscles, and the various other organs of the body. No mistake is ever committed. The brain never takes liver nutriment, nor the liver brain nutriment; but each selects that which it requires. There are, however, diseased conditions of the various organs in which this power is lost or impaired, and as a consequence, disturbance of function, or even death itself, is the result.

Now, if we can obtain the peculiar matter that an organ of the body requires and inject it directly into the blood, we do away with the performance of many vital processes which are accomplished only by the expenditure of a large amount of vital force.

Let us suppose a person suffering from an exhausted brain, the result of excessive brain-work. Three hearty meals are eaten every day, but, no matter how judiciously the food may be arranged, the condition continues. Now, if we inject into that person's blood a concentrated extract of the brain of a healthy animal, we supply at once the pabulum which the organ requires. Then, if under this treatment the morbid symptoms disappear, we are justified in concluding that we have successfully aided Nature in doing that which, unassisted, she could not accomplish.

Taking the brain as a type of the process employed—and it is not materially varied with the other organs of the body—it is as follows:

The whole brain of the ox, after being thoroughly washed in water acidulated with boric acid, is cut into small pieces in a mincing machine. To one thousand grammes of this substance placed in a wide-mouthed, glass-stoppered bottle, I add three thousand cubic centimeters of a mixture consisting of one thousand cubic centimeters each of a saturated solution of boric acid in distilled water, pure glycerin, and absolute alcohol. This is allowed to stand in a cool place for at least six months, being well shaken or stirred two or three times a day. At the end of this time it is thrown upon a porous stone filter, through which it percolates very slowly, requiring about two weeks for entirely passing through; the residue remaining upon the filter is then inclosed in several layers of aseptic gauze and subjected to very strong pressure, the exudate being allowed to fall upon the filter and mixed with a sufficient quantity of the filtrate to cover it. When it has entirely filtered it is thoroughly mixed with the first filtrate, and the process is complete.

During the whole of this manipulation the most rigid antiseptic precautions are taken. The vessels and instruments required are kept in boiling water for several minutes, and are then washed with a saturated solution of boric acid. Bacteria do not form in this mixture under any circumstances, but it is necessary to examine it from time to time microscopically in order to see that no foreign bodies have accidentally entered. Occasionally, from causes which I have not determined, the liquid becomes slightly opalescent from the formation of a flocculent precipitate. This is albuminous in its character. It sometimes takes place in a portion of the extract kept under apparently identical conditions with other portions

that remain perfectly clear. It is certainly not an essential constituent. It can be entirely removed by filtration through Swedish filtering paper, previously rendered antiseptic, without the filtrate losing any of its physiological or therapeutical power.

Five minims of this extract diluted at the time with a similar quantity of distilled water constitute a hypodermic dose.

The most notable effects on the human system of a single dose are as follows, though in very strong, robust and large persons, a somewhat larger dose is required, never, however, exceeding ten minims:

1. The pulse is increased in the course of from five to ten minutes, or even less in some cases, by about twenty beats in a minute, and is rendered stronger and fuller. At the same time there is a feeling of distension in the head, the face is slightly flushed, and occasionally there is a mild frontal, vertical or occipital headache, or all combined, lasting, however, only a few minutes.

2. A feeling of exhilaration is experienced, which endures for several hours. During this period the mind is more than usually active, and more capable of effort. This condition is so well marked that if the dose be taken at about bedtime wakefulness is the result.

3.. The quantity of urine excreted is increased, when other things are equal, by from eight to twelve ounces in twenty-four hours.

4. The expulsive force of the bladder and the peristaltic action of the intestines are notably augmented—so much so that in elderly persons in whom the bladder does not readily empty itself without considerable abdominal effort, this action is no longer required, the bladder discharging itself fully and strongly, and any existing tendency to constipation disappears, and this to such an extent that fluid operations are often produced from the rapid emptying of the small intestine.

5. A decided increase in the muscular strength and endurance is noticed at once. Thus I found in my own case that I could "put up" a dumb bell weighing forty-five pounds fifteen times with the right arm and thirteen times with the left arm, while after a single dose of the extract I could lift the weight forty-five times with the right arm and thirty-seven times with the left arm.

6. In some cases in elderly persons an increase in the power of vision is produced and the presbyopic condition disappears for a time.

7. An increase in the appetite and digestive power. Thus a person suffering from anorexia and nervous dyspepsia is relieved of these symptoms, temporarily at least, after a single dose hypodermically administered.

These effects are generally observed after one hypodermic injection, and they continue for varyperiods, some of them lasting for several days. In order that they may be lasting, two doses a day should be given every day or every alternate day as may seem necessary, one in the morning and one in the afternoon, and kept up as long as the case under treatment seems to require. The most notable effects are seen in the general lessening of the phenomena accompanying advancing years. When some special disease is under treatment the indications for a cessation of the injections will be sufficiently evident either by an amelioration or cure or failure to produce these results.

To the substance obtained in the manner mentioned and held in solution, I have given the name of cerebrine as the one, in view of its origin, most appropriate.

I have employed the solution of "cerebrine" with decided advantage in cases of nervous prostration—the so-called neurasthenia—in insomnia due to cerebral hyperæmia, in migraine, hysteria, general paresis, hebephrenia, and epilepsy. In these latter—two cases of the *petit-mal* variety—the effect has been so marked that I am not without the hope that cures will result, although I am not able as yet to speak positively on this point, the patients having been less than a month under treatment. In two cases of the *grand mal* the number of paroxyisms has been reduced more than one-half and greatly mitigated in severity. In six other cases, which were of long duration, I could perceive no curative effect.

In the case of general paresis no permanent therapeutic influence was apparent, though for several days the *delire de grandeur* was absent. In the case of hebephrenia, however, occurring in the person of a young lady eighteen years of age, the effect has been most happy, the symptoms entirely disappearing in a little more than a month's treatment.

In two cases of nervous prostration, the result of long continued emotional disturbance and in which there were great mental irritability, dyspepsia, physical weakness, loss of appetite and constipation, relief was rapidly afforded. In three other cases, in which the most notable symptom was functional cardiac weakness, the effect has been all that could have been desired. In these cases it was employed in conjunction with "cardine," the extract of the heart of the ox made in the manner already described.

It is not my intention at the present time to enter into a full discussion of this interesting subject, or to allude further to experiments in the treatment of other diseases which are not yet concluded. In the near future I shall enter more largely into the consideration of the subject in all its details. I may add, however, that I have used with excellent results, in cases in which it seemed to be indicated, the extract of the testicles of the bull and also that of the pancreas of the ox, and

these investigations also will be given to the profession at an early day.

It is alleged by some medical writers that there is no difference in the therapeutical effects of medicines whether they be taken directly into the blood by hypodermic injections or ingested into the stomach; but it is scarcely worth while to seriously combat this assertion. For, while it may be true that some substances are not altered by the gastric juice before they are absorbed into the system, it certainly is not true of many others, and it surely is erroneous as regards those of animal origin. Indeed it is, I think, doubtful if anything capable of being acted upon by the gastric juice, and of being absorbed into the blood gets into the system in exactly the same form in which it got into the stomach.

Thus the vaccine virus may be swallowed with impunity, as may also the poison of the rattlesnake and of other animals secreting toxic agents. Upon one occasion I gave a young dog, by the mouth, twenty minims of fresh rattlesake poison without its having the slightest perceptible effect upon him. I need not say that this quantity would have been sufficient to kill at least fifty men. Woorara, which is, as is well known, fatal to animal life when injected into the blood, is innocuous when taken into the stomach, and even those that do possess some action when swallowed exert this power in much less degree and require larger doses for it to be produced.

Relative to the animal extracts to which this communication refers, I have ascertained beyond question that if they are inclosed in capsules so as to reach the stomach without coming in contact with the mucous membrane of the mouth, they are absolutely without physiological or therapeutical effect so far as can be perceived, even when given in quantities of a teaspoonful or more. But if dropped upon the tongue in double the quantity used for hypodermic injections, and allowed to remain in the mouth without being swallowed—thus avoiding the action of the gastric juice—they are absorbed, and exert a slower but still decided effect. If employed in this manner, three or four doses should be taken daily. Ten minims of the solution of cerebrin placed upon the tongue of a healthy person will cause acceleration of the pulse, flushing of the face, and slight headache in ten or fifteen minutes, together with the other phenomena I have mentioned.

I have expressed the opinion that the substance extracted from the brain and other organs is the material required for the nutrition of the corresponding organs of the body, but this is only a theory to which I am not in the slightest degree attached, though I think it physiological and plausible. It may be that the mixture of uric acid, alcohol and glycerine exerts a metamorphic influence and causes the formation of a ferment having the power of restoring to the weakened brain or other viscus the lost or impaired power of assimilation. However this may be, the facts remain unaltered.—Wm. A. Hammond, M.D., in *N. Y. Med. Jour.*

THEORY OF THE PHAGOCYTES.

Metchnikoff (*Le Bulletin Médical*) contributes an article on the theory of the phagocytes. He says these cells, that are capable of surrounding foreign bodies by means of active movements, are denominated phagocytes. Sometimes the entire individual is a phagocyte, capable of enclosing the foreign bodies; such are among the protozoans, the amebæ, the rhizopods, and the majority of the infusoria. In certain inferior animals—the sponges for example—the majority of the cells only are phagocytic. The question now arises, in the vertebrates, the mammiferæ, man, which are the cellular elements capable of manifesting these properties? These elements may be divided into two great groups according as to whether they are mobile or immobile. The *mobile* elements, the most numerous, are confounded with the leucocytes from which they must be distinguished.

The smallest leucocytes, the lymphocytes, which scarcely have the dimensions of the red corpuscles, have a large nucleus which the basic aniline colors stain with great intensity, and very little protoplasm which stains to a much less degree than the nucleus. These are found in large numbers in ganglia, in the corpuscles of the spleen and in the marrow of bone. They appear to be the young stage of leucocytes.

The mononuclear leucocytes, properly so-called, are distinguished from the preceding by large size and method of coloring; their protoplasm, abundant, is pretty well stained by the basic colors; their nuclei, rich in nuclear juice, take a color less pronounced than the nuclei of the lymphocytes; also the difference between the nucleus and the protoplasm is less marked. The nucleus, single, is often oval, may be lobulated and frequently reniform. These two categories only represent a small part of the leucocytes, about 20 per cent. in human blood. The great majority is formed by the polynuclear leucocytes (Ehrlich.) These are round or ameboid cells presenting a lobulated nucleus, but nearly always single; it is very rarely that they are truly poly-nuclear. In fact, the nucleus is composed of several lobes united by filaments often extremely minute. These lobes are at times so numerous that the nucleus presents in its entirety the appearance of a mulberry. A very frequent form is the trefoil; at times rays unite all the lobes. The aniline basic colors stain all of the nuclei with great intensity, which resemble, in this respect, the

the lymphocytes. They contain a great deal of chromatic substance and very little nuclear juice. The protoplasm stains very feebly, often not at all, with the basic colors, differing thus from that of the two preceding groups. These polynuclear leucocytes represent 70 to 75 per cent. of the leucocytes. There still remains five per cent. of white corpuscles, represented by those which resemble at times the mononuclear and at times the polynuclear leucocytes, but differ from them in the special staining of the granules which fill the protoplasm. The most of these are represented by the eosinophile leucocytes, the remainder by the cells of Ehrlich.

Ehrlich's cells have their protoplasm filled with granulations which are only colored by the basic coloring matters. These granulations, round, of variable dimensions, have often been confounded with cocci. They may be distinguished by the colorless space in the centre of the mass, which represents the nucleus of the cells incapable of taking any stain. These leucocytes are extremely rare. They are especially found in pathological connective tissues. Some, for instance, in the spleen; they are very numerous in the lymph.

The eosinophile leucocytes have an oval or lobulated nucleus—thus analogous to those of the polynuclear—which is well stained by the aniline colors. With no basic color whatever are the granulations stained, even feebly. It is of no consequence what acid color, on the contrary, may be used, however diluted, but the granulations are very strongly stained and fill nearly the entire cell, leaving very little room for the protoplasm. The eosinophile leucocytes are always found in the blood of vertebrates. They sometimes have an elongated form, sometimes a crystalline appearance, particularly in certain reptiles and birds. They represent four of five per cent. of the white corpuscles of the blood and are especially prevalent in the marrow of bone.

In certain animal species, the rabbit and the wolf for example, but never in man, cells are found with granulations stained by eosine, which have been confounded with eosinophile leucocytes. Their granulations are smaller and in much smaller number, rarely filling the entire cell. These granules also take the basic colors, which is never done by the true eosinophile leucocytes. These cells have been denominated pseudo-eosinophile or amphophile. To distinguish them care should be taken not to leave the preparation a long time in the basic bath. In man, who has not these amphophile cells, a variety is found, without doubt corresponding, with granulations which are only colored by an acid and basic mixture; they are the neutrophiles.

In several species of mammiferæ—in the dog among others—no species of cells with granulations is found; it may be that they exist, but that the method of coloring them has not yet been discovered.

Which of these classes present phagocytic properties? Neither the lymphocytes, nor the eosinophiles, nor the cells of Ehrlich ever contain, in spite of their ameboid movements, foreign bodies, a truth which proves, it may be said in passing, that the pretended viscosity of the ameboid cells is not the cause of the encircling. Only the mononuclear, the polynuclear, the amphophiles and the neutrophiles enclose foreign bodies. According to the case, it is the one or the other category which plays the principle rôle.

In studying tubercle we have seen along side of the white corpuscles equally capable with them of enclosing foreign bodies, some immovable cells—the endothelial cells of vessels and nervous membranes—which present great analogies to them. Their protoplasm is stained by the basic colors as well as their nuclei, in which the nuclear juice is very abundant. When these cells are detached from the vessel walls and carried into the blood current, they are often difficult to distinguish from the leucocytes.

The analogies between these different groups of cells with large nuclei, single, are so great that they have been united under the general name of macrophages, reserving that of microphages for white polynuclear globules capable of surrounding foreign bodies. All of these phagocytic cells present the common characteristic of being derived from the mesoderm. In the muscular and nervous tissues there are other fixed phagocytic elements more specialized. In the muscular fascicles it is not the myoplasm, but only the interstitial substance or sarcoplasm, which fills the phagocytic function; as may be noticed in certain pathological cases, where the sarcoplasm, forming a large number of buds, surrounds, destroys, digests the myoplasm. The cells of nervous ganglia also manifest phagocytic properties and, it is probable that the cells of the neuroglia also have analogous properties.

What relations have these phagocytes with the micro-organisms? The phagocytes are endowed with a certain sensibility denominated chimiotaxia. They discriminate between foreign bodies and do not encircle them indifferently. Especially is this manifested towards various bodies in solution, and above all towards substances of bacteric origin. If, after the introduction of microbes into the organism, there is produced at first a considerable leucocytosis, and if the leucocytes direct themselves in large numbers towards the point of introduction, it is said that there is a positive chimiotaxia. If, on the contrary, the number of the white corpuscles diminishes, and if, at the point of introduction there is formed a simple serous exudate without leucocytes, it is said that there is a negative chimiotaxia. The more receptive an

organism is the more is the negative chimiotaxia manifested; the more refractory an organism is, the more is the positive chimiotaxia noted. If by vaccination a very sensitive animal is transformed into a refractory, the chimiotaxia, at first negative, becomes positive.

The encircling of microbes by the leucocytes is an active protoplasmic act and not simply mechanical, due to a pretended viscosity of the protoplasm. It is a physiological act on the part of the leucocytes and not on the part of the microbes, Metchnikoff has seen a very mobile spirilla in relapsing fever unable to introduce itself into the globules. The process then may be compared to an intracellular digestion, and in the process a difference in the method of fixation of the colors may be seen. The microbe, at first quite colorless, colors all at once with a great intensity, a proof of its death; then, little by little, the color disappears until it finally disappears entirely. Therefore the phagocytes surround and digest the microbes. If some leucocytes enclosing microbes are transported to a drop of nutritive substance, in a little while the leucocytes die, while the microbes, finding a favorable moment for their development, multiply in the interior of the phagocytic cell. Very soon this is filled, the peripheral protoplasmic bed is traversed and the microbes diffuse throughout the liquid. This is proof incontestible that the microbes have been encircled while living. The tubercle bacillus is distinguished by its great resisting power to this action. It is surrounded; sometimes it may be digested, but more often it resists, ends even by destroying the cell, and then is able to invade the organism.

The spores of the bacteria often resist the destructive action. Sometimes they may be digested, as, for example, those of the bacillus of tetanus. But more often they are not affected, the bacilli themselves being destroyed. This shows that in certain cases the phagocytes are protectors and not in others. This clearly demonstrates that it is the cellular elements, the phagocytes, which retard invasion and not the liquids of the organism. The principle method of defence of the organism then is the phagocytic action. Perhaps there may be other methods; it is very probable. At any rate it seems to be very clearly demonstrated that this protective power should not be ascribed to the humors of the body, which in general, and even in protected individuals, are an excellent medium of culture.—*Med. and Surg. Rep.*

The preliminary announcement of the sixth annual meeting of the National Association of Railway Surgeons of the United States, Canada and Mexico, to be held at Omaha, Neb., at the end of May, 1893, has been received. Interesting papers by various prominent surgeons.

ARE WE ON THE WRONG TRACK?

In the constant search for more exact and scientific methods which characterizes contemporaneous thought in medicine, is there not some danger that, with increasing knowledge of disease, we may be losing sight of the patient and his personal sufferings? In Germany, for example, the home of advanced scientific medicine, the patient is too often regarded, especially by the recent graduate, as the incidental appendage to a more or less interesting morbid process. We are not yet Germanized to this extent. For in our country it has ever been the boast of the medical profession that a practical spirit ruled its methods. This has earned us many a trans-atlantic sneer at our lack of scientific spirit. Nevertheless, it is pretty well understood nowadays that American physicians are excelled by those of no other country in the practical management of disease, even if it is conceded that some Europeans have attained a higher degree of perfection as regards certain refinements of diagnosis.

We have always maintained that clinical experience and "bedside" indications, as supplied by suffering humanity, cannot be entirely supplanted by laboratory research. But in Germany the laboratory rules the day.

It is interesting to observe that occasionally, even in the land of the Teuton, a voice will be raised against this ultra-physical tendency of medicine. That they are on the wrong track in regard to the treatment of sick persons over there, is, for example, boldly asserted by Professor O. Rosenbach, of Breslau. He says that the practitioner has had to take a "back seat," while the test-tube, the microscopical slide, and other instruments of precision, often wielded by mere theorists, are usurping his powers and functions.

The tuberculin fiasco is too fresh in the memory of all of us to need more than a mention here. Rosenbach says that it is absurd to treat phthisical patients as if their bacillary expectorations were all there was to the disease. He probably goes too far when he intimates that the presence or absence of bacilli in the sputum is of no practical significance. But it is quite true that treatment has not had much help from the bacillus tuberculosis. Any school-boy can stain and gloat over a few bacilli. Nevertheless it still taxes to the utmost the skill of an experienced doctor to secure a prolongation of life and comfort for the phthisical patient.

Again, with regard to cholera, it is senseless to base a diagnosis solely on the presence of the comma bacillus, and to be thus compelled to await the results of bacteriological tests before knowing what to do. Yet, during the recent German invasion, it has frequently happened that patients

were dead for a day or two before the practitioner was permitted, by grace of the authorized State bacteriologists, to "know" that the disease was true cholera. Moreover, the extraordinary fatality of cholera nostras is very suggestive of the possible fallibility of laboratory diagnosis, which disregards all clinical evidence.

Dr. Rosenbach deplores this tendency to exalt the chemist or bacteriologist above his deserts. He should be merely an assistant of the true physician. Rosenbach is strongly opposed to what he terms the diagnosis *in absentia*—that is to say an "exact diagnosis" based exclusively on the results of the chemical or microscopical examination, for example, of the urine, the patient being quite unknown to the diagnostician.

Prognosis and treatment based on such one-sided evidence are very apt to be faulty. Yet this method is much in vogue in Germany. The same objection applies to the practice of establishing the prognosis and treatment of tumors on what the microscope reveals in connection with a minute particle of the growth.

Modern medical science is fast approaching the final goal when the patient will be altogether a *quantité négligeable*, says Rosenbach. It is certainly dangerous to consider the human being merely in the light of an inanimate culture-medium for bacterial growth, or as supplying interesting secretions and other specimens.

But whatever they may do in Germany, there is not much danger that laboratories will supplant physicians in this country in the near future. Nor do we apprehend that Rosenbach's fears will soon be realized to the extent of making the German doctor altogether superfluous, even if diagnostic institutes, supervised by State officials, will be called upon to decide most medical questions.

It is true, in Germany, "bureaucracy" has become almost unbearable in arrogance. And we sympathize with the profession, whose standard is evidently being made lower by certain abuses of power on the part of sanitary and other officials. But we cannot take so hopeless a view of the situation as the learned professor of Breslau. The common sense of the people themselves will prevail and restore the now shaken confidence in the utility of the general practitioner of medicine. Perhaps we have all been, more or less, on the wrong track. But it is not too late to turn back. Let us award to faithful clinical observation of the patient that share in diagnosis and rational treatment which, so long as medicine remains an art, can never safely be taken from it. When civilized man is sick he craves human sympathy and succor. It is the privilege of our calling to extend this, even after a scientific laboratory diagnosis, with brutal frankness, has proclaimed the hopeless nature of a given case. Medical laboratories are still needed all over this country, and so are medical men. There is room for both. Neither can prosper at the expense of the other.—*Ed. in Med. Rec.*

A NOVEL EXPLANATION OF CHOREIC MOVEMENTS: A NEW TREATMENT FOR CHOREA.

Prof. Horatio C. Wood, of Philadelphia, who has been devoting much attention to a study of the mode of production of choreic movements for several years past, has arrived at a primary conclusion, which appears thoroughly logical, and which taken as a whole, affords a fine illustration of inductive reasoning. He announced recently, at his clinic at the Hospital of the University of Pennsylvania, that he had made what might prove to be a discovery of considerable practical importance with regard to the pathology of chorea.

The various steps, or stages of development, leading to this hypothesis are of great scientific interest. Some years ago, he had made a number of experiments upon dogs, and succeeded in demonstrating that these choreic movements had their origin in the spinal cord. After dividing the cord, in a dog suffering with chorea, the movements continued in the posterior extremities as before, save that, after the division of the cord, the muscular movements in the fore and hind limbs were no longer synchronous in their rhythm. In the human subject, Dr. Wood distinguishes two forms of chorea: first, those cases in which the muscular movements are violent and, to a certain extent, correlated so as to seem almost purposive—these are due to cortical lesions in the motor regions of the celebrum; and, secondly, those in which the muscular contractions are finer and more rhythmical, and are aggravated by attempts at voluntary movements—these are spinal in character. The latter variety, commonly recognized by the term St. Vitus' dance, is rare in adults but common in children, and is analogous to that which is encountered in the lower animals.

With regard to the common form of chorea in children, Wood claims that the choreic movements are caused by a paralysis, or depression of the inhibitory functions of the cells of the spinal cord. He directs attention to the physiological fact that, in the spinal centres, as in the brain, there are motor cells and also others which inhibit or arrest the discharge of motor impulses. In illustration, he cites the analogy of the heart, in which, after a period of functional excitement with discharge of force and destruction of tissue, there is a period of functional quiet with repair of tissue; the acclerator nerve stimulates to

functional activity, the inhibitory nerve to functional rest and repair. In chorea there is undoubtedly functional weakness of the motor cells; but there is also weakness, possibly greater weakness, of the inhibitory cells. When a choreic child makes a purposive, prehensile movement, the muscular contractions are exaggerated so that the hand, for instance, will move through a much wider range of motion than it would in health, compelling the child to make several attempts before succeeding in its purpose. The wider range of motion in this case is evidently due to a failure to arrest the flow of the motor impulse at the proper point; in other words, to defect of inhibition.

Having formulated this hypothesis the next step was to establish its truth, experimentally. He first recalled his therapeutic teachings as regards the action of quinine and atropine upon the reflex phenomena. He accepted as established, Chaperon's discovery that quinine has the property of lessening reflex activity, by stimulating Setschenow's centre in the medulla, in small doses; but, in large doses, causes permanent paralysis of reflex activity by acting upon the spinal motor cells in the same manner that the small doses affect the higher centre. On the contrary, atropine, as asserted by Ringer and Murrell, is a paralyser of inhibition. A choreic dog was made the subject of experiment, and, omitting details, it was graphically shown that the muscular rhythmical movements were rapidly increased after injection, hypodermically, of atropine, until they were enlarged fourfold. Following this, a hypodermic injection of quinine was given, and the movements were immediately reduced and in about twenty seconds they ceased entirely. This effect of quinine upon the choreic movements in dogs, Wood has frequently demonstrated, so that there can be no mistake about it.

The interesting observation was made, clinically, that whereas in chorea, the patellar reflex phenomenon, or knee-jerk, was lessened uniformly, this reflex became greatly exaggerated, by reinforcement, if some other voluntary movement were performed at the same time, such as raising the arms or clenching the fist. This he also explained on the theory of weakening of inhibition and the failure of inhibitory resistance to the overflow of impulse from certain spinal motor cells to neighboring centres.

In the study of the pathology of chorea, it is a strange fact that we have hitherto overlooked the phenomenon of inhibition. The phenomena of chorea, like those of hysteria, are not phenomena of increased excitement of motor centres, but of paralysis of inhibition. The conjunction of increased muscular and nervous discharge with evident weakness of the spinal centres, is explicable very plausibly upon Wood's theory that the motor cells are weak but the inhibitory cells are weaker still. It only remains to add that in several patients very prompt and marked improvement followed the application of this theory by the use of full doses of quinine.

Dr. Wood is to be congratulated upon this clinical confirmation of this very interesting contribution to the pathology of chorea, which has every appearance of being a discovery of permanent value and of practical importance.—*Ed. in Boston Med. and Surg. Jour.*

EXPERIMENTING WITH CHOLERA.

Pettenkofer, who, as is well known, has never fully accepted the doctrine of Koch with regard to the comma bacillus, has recently been experimenting with pure cultures of this lively microbe. His old-time views on the nature of the disease have not been materially affected by his most recent observations. Neither experiments on himself nor studies on the course of events, more particularly at Hamburg, have shaken his faith in the correctness of his often-repeated opinions. In a recent address, delivered at Munich, he has once more taken occasion to reassert his own pet dogmas with reference to the Asiatic scourge. A *resumé* of this entertaining lecture is published in the *British Medical Journal*. From it we learn that the veteran epidemiologist stated that "the only question now appeared to be how the comma bacillus was to be destroyed, or at any rate prevented from multiplying. He recalled that many years ago he said that the etiology of cholera was an equation with three unknown quantities, namely, x, a specific germ disseminated by human intercourse; y, a factor dependent on place and time, which he called 'local disposition;' and z, the individual predisposition.

"The simplicity of Koch's theory commended it to those who only looked at the individual patient, and not at the course of a long series of epidemics. Places as well as persons often enjoyed immunity, and places which suffered at one time remained free at another, even when two of the factors, x and z, were present. The determination of y was not so easy as that of the others, and the speaker could only say that the nature and degree of moisture of the soil had an important influence. The constant occurrence of the comma bacillus in the excreta of cholera patients indicated that the microbe had something to do with the process, but it was still open to question whether it alone was the cause of the disease."

In the course of his remarks Pettenkofer alluded to "some experiments made on himself with bacilli obtained from Hamburg. Several of his pupils offered themselves as subjects in his place, but acting on the principle *Fiat experimentum in*

corpore vili, he thought he himself—seventy-four years old, glycosuric without a tooth in his head, and with other infirmities of age—was the fittest person to run whatever risk there might be in the experiment. From pure agar cultures of the comma bacillus made by Professor Gaffky, a bouillon culture was prepared in the ordinary way by Drs. Pfeiffer and Eisenlohr. Gruber having shown that fresh cultures are more active than those which have been kept for some days, Professor von Pettenkofer chose one which had not been quite twenty-four hours in the incubator. A plate culture of this showed that one cubic centimetre even of a thousandth dilution contained numberless comma bacilli, far more than could possibly be conveyed by a man's hand to his mouth. As Koch has shown that the gastric juice was capable of killing even a large number of comma bacilli, Professor von Pettenkofer was careful to take his dose of microbes two hours and a-quarter after a light breakfast, when, according to a calculation made by von Voit, there could not have been so much as one hundred cubic centrimetres of gastric juice, with 0.3 per cent. of hydrochloric acid, in his stomach. In order to neutralize even this small amount of acid, however, he took one gramme of bicarbonate of soda dissolved in one hundred cubic centrimetres of Munich conduit water. He then measured out one cubic centimetre of the fresh culture, swallowed it at a draught, and washed out the glass with fifty cubic centimetres of water, which hs also swallowed, so as to insure the ingestion of as many bacilli as possible. This was on October 7th. On October 9th severe colicky pains and moderate diarrhœa came on, and did not entirely cease till October 15th. During that time the urine was normal in amount and contained no albumin. He took no medicine whatever during the attack, but took his customary food with good appetite, and pursued his usual avocations without any interruption, feeling perfectly well except for the symptoms mentioned. While the diarrhœa lasted the stools were examined bacteriologically by Drs. Pfeiffer and Eisenlohr, who found them swarming with comma bacilli. Professor von Pettenkofer asks rhetorically how many *milliards* of these microbes there must have been in his intestines during these eight days, and yet he had no symptoms of Asiatic cholera. He thinks, however, that his experiment might have had a fatal result if it had been carried out in Hamburg, where not only *x* but *y* was present in full force. An exactly similar experiment was made on himself by Professor Emmerich on October 17th, with much the same result, except that the colic and diarrhœa were much more severe; otherwise he felt perfectly well."

So much for Pettenkofer's lecture, from which it appears that these German savants had the courage of their convictions. In answer to the possible objection that they had a mild attack of true cholera, they adduce the testimony of Ziemssen and others, who assert that they did not. Yet assertion is not proof. It certainly does not appear to us that the Koch doctrine has received its quietus from these experiments. It is generally agreed that the comma bacillus is not necessarily fatal when swallowed, but that does not militate against its casual relationship to the disease. There are cholera-proof individuals just as there are variola proof ones.

On the other hand, it must be admitted that the bacterial origin of cholera does not fully explain all the features of its epidemic appearance. But the "soil and rainfall" views of Pettenkofer are not capable of scientific demonstration. They are mere theory and dogma. At all events, it is satisfactory to note that even Pettenkofer believes in local sanitation. If we can make ourselves and our homes "cholera-proof," we need not fear the Asiatic pestilence, even if we should inadvertently swallow an occasional comma-shaped vibrio. The senseless panic of last fall must not be supplied with this mental pabulum for a revival, even if we do get some cholera here next spring.—*Ed Med. Rec.*

OPIUM IN SHOCK AND PNEUMONIA.

Under date of November 12th, 1892, in the *Medical Record*, Dr. Dawbarn gives us some history of cases where "arterial saline infusion" is used. These seem to indicate the usefulness of the method after the case had arrived at so serious a pass as to require extreme measures; but while such things—new—are always coming up, we should not forget our old and tried friends, especially if with them we are enabled to prevent the sad condition that calls for the more severe remedy.

Opium has long been used in shock, but I fear its action has too often been carelessly regarded—as likewise the fact that patients do not die from shock directly, but rather from the collapse that follows. Bearing this in mind, the remedies we look for as likely to aid us are evidently stimulants, especially those that act on the nervous system most directly, powerfully, and permanently, without any other effect.

Ammonia and amyl-nitrite are too transient in their action. Alcoholics are not true stimulants, but opium has long, and I believe justly, held high rank among remedies for shock; but, as I have said, not so much because it benefits the patient while suffering from shock, as because it often prevents the collapse. How, then, does opium, or morphine, which is the best form to be used, act in collapse? Opium is a narcotic, and as such has a double action. The first action is to stimulate

the nerve-centres and then to depress, much the same as alcoholics; hence, to obtain continued stimulation, small and frequent doses must be taken, so that the stimulant effect of a dose may be felt before the depressing effect of the former dose comes on, and thus we have a continuous stimulant.

Not only is opium of great use in the collapse that follows surgical shock, but I have found it of the greatest possible service at the critical stage of pneumonia, which is only another form of collapse. It has been my custom to use brandy and carbonate of ammonia as everyone does, but not to rely on them at the crisis.

My plan has been to begin with one-eighth grain morphine every two hours as soon as the pulse showed that it did not respond to the brandy given frequently. Any sign of flagging has been met with an increase of dose and a shortening of time between doses, until in a number of cases I have given one-quarter of a grain every hour for two days with no suspicion of narcotism. Of my last thirty-eight cases thus treated at the critical time, all recovered except three, aged, respectively, eighty, eighty-one, and eighty-five years.

Care must, of course, be taken that the doses are not omitted, or else the drug would, by its secondary effect, carry the patient down. So, too, when the crisis is past we must slow down gradually, first lessening the amount of a given dose and then lengthening the time between doses. Of course only uncomplicated cases are included in this number. Many of the cases were seen by our most prominent physicians and the diagnosis confirmed. One case, where there was first two carbuncles, then erysipelas, followed by pneumonia, the patient, seventy-four years old, also recovered.

It is, however, proper to state that not all the credit should be awarded to opium thus administered, for in none of my cases are poultices used. I believe that the pneumonic process is extended by the exposure incident to the changing of the poultices, and therefore use an oil-muslin jacket lined with cotton, taking care to see that it is nicely quilted to prevent any rolling up of the cotton. In this way all portions are protected alike. The poultices only give us moist heat, and this is secured without exposure to cold by carefully rubbing white vaseline on the chest, leaving not only the jacket but the bed-clothing as much as possible undisturbed,

The death-rate I have shown, low as it is, is much the same as was obtained in the New York Hospital years ago, before some of our new methods were in use. My authority for this is a former physician to that hospital. When we remember that statistics recently published in Berlin gives as high as forty and fifty per cent. as the death-rate with some forms of treatment, we are again reminded that a proper use of tried methods should not be abandoned until others are proven better. Rather let the new supplement the old.—W. Washburn, M.D., New York, in *Med. Rec.*

THE EARLY EXTIRPATION OF TUMORS.

In a paper read before the New York State Medical Association, at its recent meeting, Prof. J. W. S. Gouley presented the following conclusions on this subject:

1. Malignant tumors exceed benign tumors in frequency.
2. The malignant tumors comprise epitheliomata, sarcomata and internal adenomata.
3. Among the benign tumors myxomata and external adenomata often recur after excision, but do not infect the system.
4. There is no solid benign tumor that may not become malignant.
5. No means are known by which can be ascertained the precise time of the beginning of metamorphic action in tumors.
6. Most malignant tumors have a stage of benignity.
7. Excision of potentially malignant tumors in the early epoch of their stage of benignity is likely to effect a permanent cure, or at least to prolong greatly the period of immunity from recurrence of the disease.
8. In the excision of malignant tumors, the greatest care should be taken to remove as much of the ambient tissues, including fasciæ and lymph glands, as is compatible with good judgment.
9. General treatment of tumors has no value except as an adjuvant of a surgical operation, and is often indirectly injurious, leading the patient to expect a cure by persevering in the use of drugs, and thus allowing the disease to make rapid progress toward a fatal end.
10. Local treatment of tumors, by means of escharotic plasters, pastes or powders, is the most fruitful in evil of all the devices for the torture of the afflicted. The plaster, paste or powder, causes the greater part of the tumor to slough, but there is enough left behind for the most rapid extension of the disease. The effect of the escharotic is, therefore, only to till a soil where new growths sprout like so many seeds cast upon rich loam.
11. Compression is delusive in the case of tumors containing cysts, and is directly hurtful by exciting the rapid growth of most tumors.
12. Expectancy, even in the case of benign tumors, is as unwise as meddlesome medication.
13. There should be no waste of time in endeavoring to make a precise diagnosis of a particular morbid growth, for after its excision

the microscope reveals the nature of its constituent elements and assists in the establishment of the prognosis, which is the question of greatest importance to the sufferer.

14. What is known of the great fatality of tumors of long standing, should induce surgeons to advise the complete removal of all accessible morbid growths as soon as detected, no matter how seemingly trivial or harmless, such as small glandular, fatty, fibrous, and vascular tumors, wens, warts, moles, etc.

15. As soon after excision and as often as a tumor recurs it should be removed, so long as there is any possibility of insuring cicatrization of the wound, even by skin-grafting.

16. Medical treatment after the excision of malignant tumors is of much value, even if it consists only in the administration of reconstituent medicines.—*N. Y. Med. Jour.*

CLINICAL NOTES.

On early Tapping in Serous Effusions of the Pleura.

This patient was admitted here on July 20th, 1892, with a pleural effusion. He has since admission been tapped three times in all, at intervals of three or four weeks. On the first two occasions a clear serous fluid was withdrawn; on the third occasion the fluid was of a puriform character, necessitating the ordinary surgical procedures for an empyema.

I do not personally believe, as a general rule, in tapping too early in cases of serous effusion into the pleural cavity, because in the first place the fluid re-accumulates with rapidity; and in the second place there is, to my mind, no clinical evidence that these serous effusions are more liable to become empyemata if left alone, or to seriously injure the lung. The history of this case certainly illustrates that point. He was tapped early; the fluid re-accumulating he was tapped again, the fluid still remaining serous, and yet on the third tapping pus was withdrawn; it had become an empyema.

A great deal too much stress is laid upon the question of early tapping. As a matter of fact fluid in considerable quantities may remain in the chest for several weeks, and yet when it is removed the lung will recover perfectly.

My rule in cases of serous effusion is to tap only when (1) effusion is very considerable in amount, (2) when the viscera are displaced by it, and (3) when symptoms of urgency arise. I always wait and watch in the absence of these conditions, and even with these conditions present I postpone tapping so long as possible should there be much fever, as then the fluid re-accumulates with extra rapidity, and sometimes is apt to coagulate and cause a difficulty in performing the operation.

The Question of Absolute Rest in bed with Starvation Diet *v.* Moderate Exercise and Moderate Diet in the Treatment of Aortic Aneurisms.

When you have made your diagnosis that the patient is suffering from aortic aneurism, without such urgent symptoms as absolutely indicate complete rest in bed, the question arises as to whether the patient shall be sent to bed for a long period, in the hope of bringing about a cure, or shall be allowed moderate exercise. I am now entirely against putting a patient to bed for a long period, and limiting his diet to what may be called "starvation diet." The confinement I regard as not only irksome to the patient, but positively detrimental to the tissue nutrition; and the "starvation diet" I condemn for the same reasons, except as regards limiting the quantity of fluid to be drunk.

You will remember the case of a subordinate official of this Hospital, who, for two and a half years after he was diagnosed to be suffering from aortic aneurism, continued to perform the light duties of his position up to his death. I believe that complete rest in bed on the strict diet would not only have failed to prolong his life, but such treatment might have even shortened his life.

I should give such a case a liberal diet as regards nitrogenous material and fats, limiting strictly the liquids; and I should advise moderate exercise and moderate occupation, taking care to strictly define what I mean by "moderate."

Aneurism of the aorta is but seldom cured. We have so little knowledge in this particular class of case as to the conditions which make for cure, such as the size of the orifice of the sac, the roughness of the sac walls, etc.; that I believe it should be regarded as incurable, and would treat it as one would do a case of aortic regurgation.

Salicylic Intoxication in Young Children.

When administering salicylate of soda to young children, it is necessary to watch its effects with care, as it occasionally produces in them a very alarming condition of pallor, delirium, and dryness of the tongue.

Some year ago a child of about five was under my care in this hospital. Salicylate of soda being given, she passed into a condition of this kind, the symptoms being so urgent that I feared she would die. The drug was stopped, and all the symptoms subsided. Not being at all sure, however, then that these symptoms were due to the drug, it was repeated, the child being carefully watched, and the symptoms all recurred, though in somewhat milder form.

As to dosage, five grains given three or four times a day is a full dose for a child of five or six years of age. When given the patient should be

watched with care, so that on the first appearance of symptoms of drug intoxication, the dose may be diminished, or the drug discontinued. Understand me; I do not say that five grains administered in this way to a child of this age is *necessarily* too large.—*Clinical Jour.*

MEDICAL NOTES.

Epithelioma, says Prof. Keen, is one of the very rarest of occurrences in women.

Prof. Parvin favors *Creolin* to any other antiseptic for use in the lying-in-chamber.

Prof. Keen recommends the administering of large doses of calabar bean in cases of *Tetanus*.

Prof. Hare says glycerine can be used in cases of *Diabetes* as a sweetening agent without any ill effects.

After arsenic, Prof. Hare recommends cimicifuga as the next best drug in the treatment of cases of *Chorea*.

Prof. Hare says that an anæsthetic should always be given in cases of *Painful Labor*. He favors chloroform in preference to ether in these cases.

Prof. Keen cited a case of *Syphilis* in which he administered to the patient sixty grains of the iodide of potassium four times a day without any bad results.

Prof. Hare says that codeine should always be tried in the treatment of cases of *Diabetes Mellitus*, as it may exercise a favorable effect.

Prof. Hare says that in expected paroxysms of *Malaria* the quinine should be so administered as to get its full effects an hour or two before the expected attack.

Prof. Wilson says that if the heart sounds are heard more distinctly on the left side than on the right, in the interclavicular regions, it will go toward making a diagnosis of *Consolidation of the Left Lung*.

Prof. Hare suggests, in cases of *Failure of Respiration* due to the patient being anæsthetized, that the head be pushed forward and upward, and not placed lower than the body, as is sometimes done.

For *Vertigo* with pain, Prof. Hare recommends the following prescription:

℞.—Extract. ergot. fluid., . . gtt. x-xx.
Potassii bromidi, . . gr. x-xx.
Cannabis indicæ, . . . gtt. v.—M.
Sig.—To be taken in one dose.

An important diagnostic point between *Pyæmia* and *Septicæmia*, says Prof. Keen, is that in cases of pyæmia we will have regular chills occurring; but in cases of septicæmia we do not have any chills at all.

Prof. Forbes recently stated to his class a fact, found in few, if in any, text-books. If a line be drawn from the middle of each of the condyles of the inferior maxillary bone to the symphysis menti, and from one condyle to the other, we will have formed an *Equilateral Triangle*. This will be found so at all ages, even in the fœtus, and only in the human being, and not in the lower animals. —*Coll. and Clin. Rec.*

PTOMAINE POISONING.—Dr. Thomas Stevenson (Official Analyst, Home Office) communicates the sequel to the case of a military officer, aged twenty one years, who died in twenty-four hours with symptoms of acute poisoning after partaking at breakfast of six hot sardines on toast with coffie. At the post-mortem, made next day in cool damp weather, lividity and rigidity were both well marked. The features were so bloated as to be unrecognizable. The whole body was emphysematous but the hands and feet, which appeared blanched by contrast. The mucous membrane of the stomach and the rugæ of the intestine were emphysematous. The liver was hyperæmic and friable posteriorly. Four days later the opened tin of sardines, stomach contents, and some vomit were received for analysis.

"The sardines had no unusual appearance, and looked quite fresh; the tin itself was bright and uncorroded. Their odor was peculiar, but not offensive. Some of the fish were intensely toxic; of six white mice, which were fed on them, four died; also a rat; whilst two of the mice and a young cat, fed on two of the fish, were unaffected. Two mice appeared to have immunity, for when fed on portions of fish which had been fatal to other mice, they did not suffer. From four of the fish, weighing two and a quarter ounces, I extracted, by a modification of Stas' process, an alkaloidal substance, which weighed only one milligramme ($\frac{1}{65}$ grain). About two-thirds of this, when injected beneath the skin of the back of a young white cat, caused its death within four and a quarter hours. No characteristic pathogenic forms of bacteria were discovered in the sardines. A piece of one of the sardines which when eaten had caused the death of two mice, was macerated, whilst swarming with ordinary bacteria, in sterilized (by heat) water and placed beneath incisions in the backs of two guinea-pigs, but the animals were unaffected. These experiments point to poisoning by a toxic ptomaine, and not to the direct action of pathogenic bacteria on the animal organism.'

An alkaloidal extract abtained from the stomach contents and another from the vomit proved rapidly fatal to animals. The symptoms exhibited by all the animals were similar—great feebleness, loss of muscular power, and retching.

"These experiments again appear to show that the stomach and ejecta of the diseased man contained a virulently poisonous ptomaine, similar in character to that contained in the sardines. A fragment of the putrid liver, swarming with bacterial life but in which no characteristic pathogenic forms could be detected, was macerated in water previously sterilized by heat, and some of the macerated fluid was inoculated beneath the skin of the flanks of three guinea pigs. All died within twenty-four hours. Two of the animals exhibited no particular post-mortem appearances. The third had much œdema about the site of inoculation, there was fluid in the peritoneal cavity, the spleen was enlarged and much congested, and the intestines were emphysematous. The œdematous fluid from the sight of inoculation, the peritoneal fluid and the spleen juice all abounded in bacilli similar in appearance to those of malignant œdema. Some were single rods, but many were prolonged into long jointed threads. No spores were seen. That a ptomaine and not a direct action of bacteria was the cause of death of W. H. seems to me clear from the above experiments. Nevertheless, the facts that there was œdema of the thigh of the deceased man, and that his liver was capable of producing malignant œdema in a guinea-pig, are curious. I incline to the opinion that the ptomaine was generated before the tinning of the sardines." —*British Med. Journal.*

LISTER AND CARBOLIC ACID.—In an address recently delivered in London, Sir Joseph Lister sounds the praises of carbolic acid as compared to other and more recently devised agents for disinfection. Most of the micro-organisms which the surgeon has to fear are easily destroyed by a one-to-twenty, or weaker, carbolic solution. His method of disinfecting sponges will startle many surgeons of the present day. He says:

"For my own part, I purify my sponges for private operations in a somewhat rough-and-ready way. I put the sponges after an operation into a tank of water and let them putrify there. The fibrin, which clings among the pores of the sponges, becomes liquefied by putrefaction. They can then be washed thoroughly clear of their fibrin, and the washing is continued until they no longer give a red color to water. They are then put into one-to-twenty carbolic solution and kept there. In my Edinburgh practice I used to proceed in a bolder way. Taking the sponges out of the putrid tank, I washed them in water, and sometimes if I was in a hurry, even before the water which came from them was completely freed from red color, I dipped them into the one-to-twenty carbolic solution, and took them at once to my operations. I have before now applied a sponge so treated immediately to a wound for the purpose of exercising elastic pressure and absorbing blood and serum from it, and then put on my external antiseptic dressing over it without any bad result. These facts taken together will, I think, be enough to convince you that it is not necessary, as is sometimes done, to discard these most valuable articles and substitute for them sterilized cotton-wool or tissue of one kind or another, incomparably inferior to sponges for the purpose of absorbing blood."

He uses the same solution for instruments, hands and the skin of the patient. After scrubbing the instruments with soap and water and a nail-brush, they are put into the one-to-twenty carbolic solution for a few minutes. A few minutes' action of the one-to-twenty carbolic solution on the skin he considers sufficient. It is much to be preferred to corrosive sublimate, as it is not only a germicide but penetrates deeply into the epidermis and mingles with fatty materials. Before the wound is closed it is washed out with a one-to-forty carbolic lotion.—*Boston Med. and Surg. Jour.*

ATHLETIC EXERCISES AS A CAUSE OF DISEASES OF THE HEART AND ARTERIES.—At a recent meeting of the Medical Society of London, Collier called attention to the growing tendency to indulge in certain athletic sports to an injurious extent. He referred to the connection between oft-repeated muscular effort and diseases of the heart, pointed out by Dr. Peacock as observed in Cornish miners. In these men the symptoms began to develop at about the age of 40, with slight dyspnœa and palpitation, gradually increasing in severity. The pathogical changes observed were dilatation and hypertrophy of the ventricles, with, in a certain proportion of the cases, aortic incompetence. He urged that the evidence was conclusive as to the effect of frequently repeated muscular exertion in the production of heart disease. Dr. Morgan's researches on the after-history of the oarsmen in the Oxford and Cambridge boat races between the years 1829 and 1869, comprised 251 out of 255 still living and he came to conclusion that the majority were rather benefited than otherwise by their exertions. He remarked, however, that these researches bore upon picked and carefully trained men. Boating, moreover, appeared to entail less risk than either running or cycling, and he insisted upon the fact that it was in the frequent repetition of severe muscular effort that the danger lay. The practice of cycling against time he considered to be a particularly pernicious practice, in support of which he quoted a number of instances of consequent circulatory

lesions. He had observed symptoms pointing to dilitation of the right ventricle after rowing, running, and football, but such symptoms occurred exclusively among badly developed, narrow-chested, weakly men. The physiologically dilated and hypertrophied hearts of trained athletes underwent certain changes in the direction of atrophy of the muscular substances, which later on might render them unable to cope with sudden extra strains.

Dr. Sansom observes that many athletes experienced no symptoms of circulatory disturbance, though there was marked evidence of hypertrophy of the left ventrical; and he raised the question whether this condition was to be regarded as physiological or pathological. Some athletes, however, showed unequivocal signs of diliation of the right heart, while others gave evidence of disturbance of the cardiac innervation. He referred to a number of cases of tachycardia directly attributable to overstrain, a condition which was specially liable to result from the pernicious practice of racing against time. In other cases structural disease of the heart and endocarditis resulted.—*Brit. Med. Jour.*

McPherson, (E. M.) on Things to be Remembered in Rural Practice.—In the treatment of diseases of the ear there are certain facts that should be known and remembered as a matter of safety to the patient and satisfaction to the physician. It should be remembered that all liquid applications made to the canal or middle ear should be previously *warmed*. That cold water should never be used when syringing the canal on account of its tendency to induce tympanic inflammation.

That the use of the syringe in the auditory canal is not unattended by danger to the drum-head.

That many cases of deafness result from an accumulation of the ear wax in the canal, and can be cured by its removal. That such tendency to accumulation of ear wax—when not resulting from the use of oils in the canal—is indicative of an abnormal condition of the ceruminous glands, perhaps from middle-ear disease.

That the practice of keeping the auditory canal plugged is a harmful one, and except during acute inflammations of the deeper parts, should be discontinued.

That the natural curvature of the auditory canal protects the deeper structures from hurtful external influences.

That boxing the ears, or other methods of concussion, occasionally causes rupture of the drum membrane.

That the disease known as "earache" is acute catarrhal inflammation of the middle ear and one that should receive the attention of the physician.

That a very large percentage of all tympanic diseases have their origin in diseased conditions of the mucous lining of the nose, pharynx or larynx, and that their cure depends largely upon the treatment of these latter parts.

That the constant application of warm water in the auditory canal is among the best known means for controlling the pain attending acute tympanic inflammations.

That poultices long continued for this purpose are objectionable on account of their tendency to induce suppuration of the middle ear with consequent rupture of the drum membrane.

That local applications in the auditory canal, as mullein oil, or laudanum and sweet oil, when the drum-head is not perforated do no good, and only for the heat and moisture which they carry (and which can be better carried by warm water), might well be dispensed with.

That oft repeated attacks of "earache" are apt to lead to impairment and perhaps destruction of hearing.—E. M. McPherson, M.D., in *Med. Gleaner.*

The Treatment of Fracture of the Clavicle and a New Dressing for the Same.—Bunger recommends for the treatment of fractured clavicle the following dressing:

An elastic T-shaped bandage is used, the cross-piece of which should be sixty centimetres long and four wide. The three tails which are fastened to the cross-piece, as the spokes to a wheel, should be each 120 centimetres long and ten broad. The cross-piece should be made fast to the second shoulder, in such a manner that the middle and one side tail should rest on the back, while the remaining side tail should rest on top of the shoulder. The middle tail is then carried over the back, through the axilla and around the upper third of the arm of the injured side; it is then carried back to the starting point, and fastened. By this means the arm is drawn directly backwards. The lower tail is likewise carried over the back and around the arm of the injured side, so that it grasps the elbow; it is then carried back to the starting point and fastened. This part of the dressing not only draws the arm backwards, but also somewhat upwards. The remaining tail is then carried over the sound shoulder, downward around the wrist, so as to form a sling for the arm of the injured side, then back over the seat of fracture and fastened to the two tails on the back. The author claims for this bandage:

1. The arm is not fastened to the side, as in a Velpeau or Desault dressing, and is, therefore, not so uncomfortable.

2. The elasticity of the bandage always holds it in the proper position, no matter what position the patient may assume.

3. It can be used in any fracture of this bone.

4. It need be applied next to the skin only for ten days, and then can be placed over the patient's coat.

5. It better reduces the deformity than any other bandage.—*University Med. Magazine.*

TENDON REFLEXES.—The following is a classification of tendon reflexes by Dr. William C. Krauss and which may be found useful:

Exaggeration of Tendon Reflexes.	Organic Disease.	Spinal Cord.	1	Myelitis
			2	Amyotrophic lateral sclerosis.
			3	Paraplegia spastica.
			4	Multiple sclerosis
			5	Syringomyelia and hydromyelia
			6	Hematomyelia and hematorrhachis
			7	Spinal tumors.
			8	Pachymeningitis hemorrhagica interna.
			9	Pachymeningitis cervicalis hypertrophica.
			10	Brown-Sequard's spinal paralysis.
			11	Arthritic muscular atrophies.
		Brain.	1	Hemiplegia. — Cerebral apoplexy. Cerebral embolism, thrombosis. Acute encephalitis.
			2	Hematoma.
			3	Hydrocephalus.
			4	Senile dementia.
	Functional Disease.		1	Hysteria.
			2	Epilepsy.
			3	Neurasthenia.
			4	Paramyoclonus.
			5	Tetanus.
			6	Psychoses.
			7	Infectious processes.

Abolition of Tendon Reflexes.	1	Neuritis.	Simple. Toxic. Endemic. Infective.
	2	Locomotor ataxia	
	3	Poliomyelitis anterior.	
	4	Spinal muscular atrophies.	
	5	Hereditary ataxia (Friedreich).	
	6	Chorea mollo.	
	7	Chronic ergotism.	
	8	Diabetes mellitus.	
	9	Traumatism.	
Abolition and Exaggeration.	1	Meningitis.	Spinal. Cerebral.
	2	Dementia Paralytica.	
	3	Idiocy.	

—*Buffalo Med. and Surg. Jour.*

MENTHOL FOR EXCESSIVE VOMITING.—Dr. Weil (*Centralblatt fur die Gesammte Therapie*), after seeing the use of menthol for the excessive vomiting recommended by Gottschalk, Weiss, Koltenbach, tested its use himself.

His patient was a woman, twenty-three, I-para. She was six weeks advanced when the vomiting came on, but laid the blame upon some rich fish eaten some time before. After a very few days an acid vomiting began again, but first only in the mornings, then several times a day. In eight to ten days the illness had fully developed, vomiting became more and more frequent, following the slightest attempt to take nourishment, and often occurring without that. The patient became greatly emaciated, with a pulse of 110 and a temperature of 98°F. Finally blood was vomited. The treatment was rest in bed and strict diet. Genital treatment and a rectal alimentation were not permitted.

Various drugs were used with little or no avail. At last menthol was tried, and the vomiting ceased at once. It occurred again two or three times on following days and then not again. The patient recovered rapidly, and the pregnancy reached its normal termination.

All the authors mentioned gave menthol solutions in spoonfuls at certain intervals, just as a narcotic would be given, evidently with the intention of producing a lasting diminution in the reflex irritability of the stomach. Now the action of menthol is above all a local one, and confined to a short time—about ten to fifteen minutes; it appears to be a cooling action, rendering insensible to pain and anæsthetizing.

Sure that the action was only a local and immediate one, Weil wished to administer it at the beginning of nausea, just before vomiting might occur. It was necessary for this purpose to prepare it in such a way that it could act at once upon the mucous membrane of the stomach. He took a twenty per cent. solution of menthol in olive oil, dropped ten drops of it on finely-powdered sugar, spreading the same over it. This made a mass of such consistency that it could be swallowed with a sip of water as readily as a large pill. It only left the taste of sugar, and was immediately diffused in the stomach. The action was marked. As soon as nausea seized the patient she quickly took this dose, and was able from ten to fifteen times to prevent the vomiting. As the illness had already been in progress four weeks, Dr. Weil does not claim that the menthol alone caused its rapid termination. But the separate attacks of apparent uncontrollable vomiting were stopped by it every time. All other preparations of menthol are very hard to take.—*Archives of Gynecology.*

A FATAL CASE OF VOMITING OF PREGNANCY.—A patient was sent to me at the Hospital for Women, Soho-square, on Jan. 18th, 1893, by Mr. Melville of Caledonian Road. She was twenty-nine years of age and, although married seven years, had never before been pregnant. Menstruation, established at the age of fourteen, had recurred regularly every three weeks until Sept. 25th, 1892, since which date—*i.e.*, for nearly four months—there had been complete amenorrhœa. From the end of October until the week before Christmas she complained constantly of a feeling

ofsickness, but only occasionally during this period was there actual vomiting. Since the week before Christmas she had vomited almost incessantly. If even the smallest quantity of fluid was taken it was ejected immediately. For one week she had complained of tenderness of the abdomen. Physical signs: The anterior abdominal wall was flat and so retracted that the anterior superior spines of the iliac bones stood out prominently. The abdomen was so extremely tender that the results of palpation and percussion could not be ascertained. Vaginal examination: The vagina was exceedingly tender, and there was noted a marked bulging of the anterior wall of this canal. The cervix was situated far back towards the sacrum and was closely applied to the left wall of the pelvis. It was surrounded by what appeared to be an œdematous collar of mucous membrane at the vaginal roof. The cervix was not soft. The os looked downwards. On the right side the vaginal roof was pushed down below the level of the external os by a large globular and cystic swelling. Bimanual examination: The abdomen was occupied by an ovoid swelling which reached to about two inches above the pubes and the greater diameter of which extended transversely. Palpation of this abdominal swelling could be equally perceived in both the swelling in the right fornix and the cervix. Both breasts were enlarged and tender, but no colostrum could be obtained. The pulse numbered 120 per minute and the temperature was normal. The temperature continued normal until the day before death. when it fell to 98° F., but the pulse gradually increased in frequency. Death occurred on Jan. 30th, but for three or four days previously the patient occasionally prolonged attacks of syncope.

Necropsy.—Here and there the skin of the face, chest and legs was of a deep lemon color. On opening the abdominal cavity the peritoneal sac was dry and there was no evidence of peritonitis The uterus occupied more especially the right half of the pelvis and the fundus reached to about three inches above the pubes. Two small fibroid nodules each of about the size of a pea were observed in the anterior wall of the uterus close to the fundus. There was no evidence of tension in the broad ligaments and both ovaries and both tubes were apparently healthy. The uterus was removed intact. The bag of membranes was then observed projecting beyond the external os. The posterior wall of the uterus had evidently yielded more to the pressure of the developing ovum than the anterior, for not only did it bulge more than the latter, but it was actually much longer and much thinner, The placenta was found detached, yet no hæmorrhage had resulted from the separation. It was a four months' fœtus. The liver was of a pale-yellow color; it was soft and fatty but not enlarged. The gall-bladder, which was distended, contained bile of a deep olive-green color. The spleen was rather small. All the other organs of the body were apparently healthy.

TREATMENT OF ULCERS BY STRAPPING.—Dr. C. E. Quimby, advocates this method of treatment which is carried cut as follows:

1. Adhesive straps should not be over one inch in width, and usually a narrower strap is to be preferred.

2. Straps should be as short as is consistent with a firm hold on healthy skin, and should never fully encircle the limb.

3. All straps should be applied at *right angles* to the long axis of the ulcer, subject to slight modification by the direction of greatest cutaneous elasticity, and are to be adjusted in two sets.

First set:

4. These straps are applied in the usual manner by fixing one end on healthy skin and approximating the edges of the ulcer as the other end is applied and fixed.

5. The first strap of this set should *bisect the ulcerated surface.*

6. Each succeeding strap of this set should bisect uncovered ulcerated surfaces.

7. As any strap becomes loosened, one end should be freed and reapplied under appropriate tension.

8. Straps should be applied in this manner until the uncovered strips of ulcerated surface are narrower than the straps in use.

The second set is then applied.

Second set:

9. Each strap of this set is to be applied from its centre to both ends simultaneously under appropriate tension, so as to cover an exposed strip of ulcer, and overlap two adjacent straps of the first set. To accomplish this, the straps are held by both ends and adjusted while being firmly stretched.

The degree of tension under which these straps are applied, will depend upon the tension under which the first set have been adjusted. If applied under too high tension they will cause puckering of the straps of the first set.—*Medical Record.*

ALBUMINURIA.—The author confines his attention, in this paper, to the ætiology and varieties of albuminuria. He denies the existence of the so-called physiological albuminuria, claiming that the renal lesions or the concomitant disease is overlooked; in his own words, "that there does not exist an albuminuria without functional or organic lesions of the renal filter, no assertion being made as to the site of the trouble."

The pathogenesis, he considers in two great classes, Albuminuria, Symptom of General Disorder and Albuminuria, Symptom of Nephritis. In

the first division, the majority of cases arise from circulatory, nervous, thermic, toxic or infectious disturbances, which are described at some length. Special attention is called to febrile albuminuria, in which a number of factors enter; fever, infection, the state of the blood, etc.; albuminuria of non-febrile diseases, such as scurvy, diabetes, anæmia, due generally to renal changes of vascular origin; albuminuria in affections of the nervous system, epilepsy, delirium tremens, Basedow's disease; albuminuria in affections of the digestive canal, diarrhœa, intestinal obstruction; albuminuria from venous stasis, from cardiac lesions; albuminuria from respiratory troubles, where many elements have equal part; lack of oxygen, incomplete combustion of albuminoids; albuminuria of pregnancy, probably of circulatory origin.

In the second class, Gaston passes in review all the varieties of nephritis, forming two artificial groups in their relation to albuminuria; those with abundant albuminuria, due to acute diffuse acute and chronic parenchymatosus nephritis; those where glandular suppression is marked and where albuminuria is rare; due to the chronic interstitial variety. Finally, there are the amyloid and "localized" nephritis, the latter from tumors, cancer, tuberculosis, etc., both of which progress *pari passu* with albuminuria.

In giving a prognosis, it should never be neglected to study the relation between the albuminuria, the urinary peculiarities and the general condition of the patient. — Johnston, *Archives. Gén. de Méd.*

NEEDS HIGHER MEDICAL EDUCATION.—The following was sent us from Oklahoma (*Ex.*), and is the original copy submitted to a printer there. We have several practitioners in sunny Kansas who could do nearly as well:

"Located at Perkins and will visit Patient at ther home if so Desired.

"DR. C. WELTER and for Beast.

"Special attention will be taken in female complaints old or young also in Midwifery at an call and will treat cases of Rheumatssm and Eplective fitts and the Doctor will keep on hand a salv that he makes himseff good for man women alments warnted as good a salv that is in the united State for all soorse or swelling saddle soores of collar Bruises and will grow out a New hoof and the Doctor will make a syrup for coughs and could and Plurise in the side or lungs charges Reasonable Consultation Free."—*Med. Rev.*

A HINT IN PRESCRIBING.—It is well known that if is wished to prescribe digitalis in combination with the liquor or tincture of the perchloride of iron by means of the addition of a small quantity of dilute phosphoric acid, we can obtain a clear presentable mixture. But it is not, perhaps, equally well known that by adding small doses of the same acid, tinct. cinchon, co. and tinct. ferri. perchlor, can be prescribed equally well in combination. The sediment deposited being not greater than that found in the commonly ordered mixture containing tinct. cinchon. co. and spiritus ammoniæ aromat. It is advisable, as in the case of digitalis and iron, to see that the acid is added to either of the constituents before they are brought into contact. If this is done it will be found that the inky repulsive appearance otherwise presented will be avoided and a practically translucent mixture result.—*Med. Rev.*

STRYCHNINE IN VOMITING OF DEBILITY.—Dr. Smith cites a case where a British officer suffered intensely from obstinate vomiting and great debility as a sequence of malarial fever. He tried all known agents reputed in useful as such conditions, but they only had a passing effect. As a last resort, he tried strychnine in large doses, and was surprised to find that within twenty-four hours it had controlled the condition and continued to control it effectually so that, after a few weeks the patient, who was almost like a living skeleton, became fit to go about and do light duty. The movements of the stomach in the above case seem to have been due to derangement of the centres which preside over it, whereby the stimulus of food, which in health excites the physiological rhythmic contractions of that organ, in the diseased and inevaitble condition in question was sufficient to excite the act of vomiting.—*British Med. Jour.*

METHOD OF POULTICING.—Poulticing an ear may seem to be a simple operation, but there is, nevertheless, a right and a wrong way of doing it, and it appears that the wrong way is usually adopted. At least so says Dr. Albert H. Buck, of New York, in an article on aural therapeutics in the March number of the new *International Medical Magazine.* Dr. Buck says that while heat is one of the best remedies in painful inflammations of the middle ear, and the poultice is one of the best methods of applying heat, as usually put on the poultice has but little effect. What should be done, he says, is first to fill the external auditory canal with lukewarm water, the head resting on the unaffected side on the pillow. Then a large flax-seed poultice is applied over the ear as hot as can be borne. The column of water is thus kept warm and acts as a conductor of heat between the poultice and the inflamed surface.—*N. W. Lancet.*

DIET IN DIABETES.—The following rigorous diet is recommended by Dujardin Beaumetz, of Paris. Eggs, fish, meats of all kinds, poultry,

game, oysters, and cheese. All green vegetables are permitted except beets, carrots, and beans. Fatty foods are recommended, such as sardines in oil, herring, lard, goose-grease, ham-fat and caviar. All soups are permitted when made of meats in combination with cabbage, poached eggs and onions. Put no bread or toast in the soup. Only dietic breads are to be used, and saccharine in place of sugar. All starch foods are strictly forbidden, as sweet fruits, pastries, and chocolates. Patients may drink claret wine diluted with Vichy, but no poor wines, liquors or spirits. Daily exercise morning and evening in open air; fencing and gardening and other light exercise.—*Med. Mirror.*

FEEDING IN FEVERS.—Milk seems to be generally regarded as a fluid, and a very harmless looking fluid it certainly is when it is put into the stomach; but if it is to be digested and assimilated at all, it is very soon transformed into a bulky solid after it reaches the stomach. There are many patients to whom milk in any form is repugnant, and to some of these it is exceedingly difficult of digestion. It has been my practice for many years, in all kinds of illness, but especially in the presence of fever, to pay regard to the appetite and desire of the patient. If a patient is really hungry, solid food of a properly selected kind and in judicious quantity will rarely disagree with him. With hospital patients it is not always easy to ascertain whether they are really hungry. Many will profess hunger without being hungry because they suppose that they will recover more quickly if they eat freely. To them, of course, other solid food than milk should not be given, but if they are genuinely hungry, I believe it is safe to presume that the stomach is prepared again to resume its function, that gastric juice is again secreted, and that properly selected albuminous food in judicious quantity will be digested if you give it.

We are accustomed, I think, to have too great a dread of doing harm at the site of lesion in the ileum in typhoid fever by giving solid food. If I am correct in my opinion as to the inference to be drawn from hunger in a fever patient, there is even less likelihood of causing damage to an ulcerated ileum by giving finely divided egg, or beef or chop, to such a patient than by giving him milk; and my experience seems to justify the inference. It has been my practice for years to allow albuminous foods of these descriptions to such patients, even before the fever leaves them, under these conditions. I have at present under treatment several patients with typhoid fever whose temperature reaches 101°, 102°, and 103° F., daily, who are hungry, and who are receiving such solid food once a day. So far as I am aware, I do not have a large precentage of relapses or hæmorrhages, or other serious complications, or accidents in my practice than I did before I adopted this plan, or than my colleagues do who have not yet adopted it.

Even tea and coffee and beer are not allowed by many doctors; in my hands they have been very useful when given to those who have been accustomed to them in health and desire them in fevers. Well-cooked oatmeal is another very nutritious food that I allow under the same conditions as meat.

When the appetite fails, in consequence of the presence of fever, meat becomes more repugnant than any other food as a rule. Then it would be most injudicious to force it upon a patient; but the returning appetite, the awakening desire for meat, I believe to be nearly always an indication that the stomach is prepared to take care of it. That much is gained by maintaining the nutrition of fever patients needs not to be mentioned to the members of this Society. Of course, the necessity of giving an abundance of water is not to be lost sight of.

What I have said of feeding typhoid fever patients is equally true in other forms of fever. It is, in my judgment, a mistake to withhold solid food merely because a patient has fever, and it is incorrect to regard milk as a fluid food, as our knowledge of the physiology of digestion teaches us. Our knowledge of the form in which milk often appears in the fæces emphasizes this latter fact. Milk will always remain the most serviceable general food in disease, and especially in fever, largely because it is swallowed with much less effort than attends the taking of other foods; because it is the cheapest of the foods; because it requires little or no preparation, and because it is so commonly well borne. But where it fails to nourish the patient, where it is not well borne, where it cannot be taken, for any reason, it is well to remember that efficient adjuncts and substitutes are within reach.—Dr. Geo. L. Peabody, *N. Y. Med. Record.*

HYDRASTININ FOR UTERINE HÆMORRHAGE.—Gottschalk, Therapeutische Monatshefte, has already written of the use of this drug for uterine hæmorrhage, but now after more extended use speaks more confidently in its praise. Sometimes he uses it by subcutaneous injection and sometimes internally. More than $\frac{1}{6}$ of a grain three times a a day should not be given.

Of course, it is not to be supposed that we possess in hydrastinin a sovereign remedy for all possible forms of uterine hæmorrhage; only in certain kinds of menorrhagia and metrorrhagia can one be confident of success, and then it is chiefly palliative. The hydrastinin is not calculated to stop immediately a profuse uterine hæmorrhage. This is explained by its physiological pro-

perties. Hydrastinin acts exclusively upon the vascular system, especially upon the vascular walls, causing vascular contraction, but not a vascular closing, such as is necessary in puerperal hæmorrhage ; for this purpose it cannot replace ergot, which acts directly upon the muscle of the uterus. Ergot is preferable in all cases where a contraction of the uterine muscles is to be obtained. Gottschalk has also not found hydrastinin of special value in myoma or carcinoma, nor been able to observe even a lessening of the hæmorrhage in non-operative carcinoma.

Gottschalk summarizes his conclusion as follows, viz.

1. First of all, those uterine hæmorrhages which are traceable to a pronounced congestion of the uterus. To these belong, above all, the often very profuse menorrhagias of spinsters, in whom there is no pathological change in the condtion of the genitals. In some of these cases it is possible to obtain a pernament result, so that even after discontinuing the remedy the menstrual flow remains smaller.

2. Also in hæmorrhages, which have their pathological and anatomical cause in endometritis, hydrastinin will lessen the quantity of blood ; but here, according to his experience, the action is only palliative, not being sufficient alone to cure the local cause of the trouble.

3. For prophylactic or intramenstrual use, hydrastinin is useful before or during the first returning profuse menstruation after an abrasion of the uterine mucosa. It is well known that this menstruation, usually occuring after six weeks, is often very profuse. In the very cases where there was great loss of blood before the operation, it is of great importance to prevent further profuse hæmorrhage. This is possible if the treatment with hydrastinin is begun several days before the expected menstruation, and if necessary, continued during the duration of the menstruation.

4. Menorrhagias caused by retroflexio uteri are best treated by correction of the malposition ; but for cases of fixed retroflexion, where the reprosition is not yet possible, hydrastinin is a commendable remedy.

5. Secondary uterine hæmorrhages—*i. e.*, those caused by a change of the adnexa and their surroundings—offer a large field for the successful use of hydrastinin. To these belong the menorrhagia and metrorrhagia with pyosalpinx, oöphoritis, ovarian tumors, and exudations. Of course, the cause of the trouble is not influenced by the remedy.

6. Climacteric menorrhagias are much diminished by a faithfully carried out hydrastinin treatment.—*Brooklyn Med. Jour.*

FADS IN GYNÆCOLOGY.—The *curettage and drainage* fad claims our attention. This is a fad rejuvenated by asepsis, and very attractive it is. We have no fault to find with the operation *per se*, but have, on the contrary, expressed our admiration both by pen and in practice of its beneficial effect when indicated. But as a fad it is too commonly believed to be a "cure all" for every condition of disease which does not clearly indicate laparotomy. It is the same fad-cure which dogs the steps of hysterectomy and which bids fair to bring this operation into disuse in many of its necessary or at least very important applications.

Apostoli's treatment of fibroids has been and is, even to-day, a pronounced fad. The results claimed for it and believed of it by many of its votaries have been marvellous. It is true that unlike the majority of other medical fads it has not been, except when used for its electrolytic effect, of positive physical injury to those upon whom it has been used, and yet it is responsible for much disappointment and loss of time and money. When used for its electrolytic affect, it has proved a most dangerous weapon in the hands of many over-enthusiastic practitioners. Instead of proving a cure for fibrolds as once fondly hoped of it, it has now taken, in the opinion of the majority of gynæcologists, its proper place as an important aid in the treatment of many distressing symptoms connected with these tumors, whose growth it may retard and whose size it may even diminish —at least for a time. It is undoubtedly the best therapeutical agent at our command for this disease but like other good things it has been much misused in its character of fad.—*Brooklyn Med. Jour.*

STRETCHING THE SPHINCTER ANI IN MORPHINE POISONING.—All students of orificial surgery know how easy it is to control respiration by manipulation of the sphincter ani, and we can give our anesthetic with a feeling of security if our bivalve is in easy reach. I have resuscitated several patients almost moribund with chloroform by the use of my bivalve. But a few nights since, I had, to me, a unique experience, in dilatation of the sphincter ani for morphine poisoning. I was called to see a woman who had taken fifty-seven grains of morphine with suicidal intent. I found her in a stupor with pupils contracted, and slow, stertorous breathing. The neighbors had beaten her black and blue before I had reached her, and she gradually sank into a stupor from which she could not be aroused by the most severe switching. While giving an enema of coffee, the idea occurred to me, why not stretch the sphincter as we do in chloroform narcosis? Accordingly I at once introduced both thumbs, and separated them widely. The patient give a loud shriek, and took several good breaths. I sent for my bivalve, and for several hours I sat by her side, and as respiration would flag I would stimulate it by pressing together the

handles of the speculum. As a result of this treatment her life was saved. It has been my misfortune to see many cases of suicide, and I feel certain that several of them would now be alive had I known enough to use the speculum. It seems to me little less than a crime for the profession to neglect so simple and yet so effective a method.—Dr. Daily, *New York Medical Times.*

TERPENE HYDRATE IN BRONCHIAL CATARRH.—I am desirous once more of calling attention to the value of trepene hydrate in the treatment of affections of the bronchial and nasal mucous membranes. Its properties have been well known for many years, but in this country it has never been a popular remedy, and its claims seem to have been overlooked in favor of pure terebene and other similar compounds. It is a hydrate of turpentine, and is made by treatment of oil of turpentine with nitric acid and alcohol. It is a solid, and has somewhat the appearance of chloral hydrate. Its odor, which is slight, resembles that of pure terebene. The great difficulty in the way of its administration is that it is practically insoluble in water. It is usually said to dissolve in alcohol in the proportion of 1 in 10, but many specimens are far less soluble. On the continent, where it enjoys a high reputation in the treatment of bronchial affections, it is used as a popular remedy in the form of an elixir. For some months past I have prescribed it in a solution containing 5 grains to the half ounce, made up with simple elixir and flavored either with tincture of Virginian prune and syrup of tar, or with the aqua laurocerasi. For patients who cannot take sugar the elixir may be made with saccharine. Terpene not only relieves cough and lessens bronchial secretion, but is a diuretic, and has been used with advantage in neuralgia.—William Murrell, M.D., in *Br. Med Jour.*

GONORRHŒAL RHEUMATISM—Dr. Brodhurst advises, as treatment for gonorrheal rheumatism, that the affected joints be wrapped in lint, covered with mercurial ointment; that they should be bandaged as firmly as can be borne, and that the patient should be brought rapidly under the influence of mercury, preferably by inunction. With such treatment, pain and swelling quickly disappear, and the joints resume their normal condition. At this stage passive motion of the affected joint is free, for lymph will have been deposited on the synovial membranes, through which adhesions form. These bands soon become firm, and resist any attempt that the patient can make to move the joint

This treatment, according to the author, never fails, if resorted to at the onset of the inflammatory stage. The knee, the hip, the elbow, and the shoulder, are most frequently affected by this form of inflammation. Anchylosis may result, not in one joint only, but in every articulation of the body. When, after the inflammation has ceased and passive motion has not been employed, adhesions remain and become firm, force is needed to restore mobility. This should always be used in the direction of flexion, since, when thus employed, no injury can accrue to any structure. Under some circumstances division of the flexor muscles is necessary.—*Ex.*

TREATMENT OF INCONTINENCE OF URINE.—Townsend records the result of the examination and treatment of 100 cases of incontinence of urine in an equal number of children of either sex. In 69 some cause, or probable cause, could be discovered. He gives an elaborate classification of causes, but draws attention to three: (1) Small meatus, relieved by nicking the meatus and stretching with scissors; (2) retained secretion in the groove behind the glands, with or without adherent prepuce; even after circumcision smegma and dirt may accumulate, and cause irritation; (3) excess of urates and over-acidity of the urine. He thinks that, had this last cause been looked for, it might have been found in many of the causes in which no cause was assigned. Treatment of co-existing dyspepsia is necessary; but, of 5 cases, 2 were relieved and 2 cured by the administration of Carlsbad salts. Townsend points out that in order to ascertain the true condition of the urine it is necessary to examine a specimen passed at home, as the excitement of a visit to a hospital or the surgeon's house may lead to the passage of copious dilute urine. By special inquiry as to the after-history of cases relieved or apparently cured belladonna, he found that relapse was very frequent.—*Brit Med. Jour.*

NOCTURNAL INCONTINENCE OF URINE AND PHIMOSIS.—In an article on the above subject by Dr. E. Loumeau, in the January number of *Annales de la Policlinique de Bordeaux*, the writer divides the different varieties of incontinence under five heads:

1. Incontinence of urine of purely psychopathic origin. (Theory of T. L. Petit.)
2. Incontinence of urine due to vesical irritability. (Theory of Trousseau.)
3. Incontinence of urine due to a faulty contractability of the sphincter vesicæ, or to anesthesia of the urethra. (Theory of Guyon.)
4. Incontinence of urine due to paralysis of the bladder and sphincter.
5. Incontinence of urine due to epilepsy.

Under the second head—vesical irritability—the author mentions the following causes: (1) Peripheral irritation, such as phimosis, atresia of the meatus, hypospadias, oxyurides hæmorrhoids, fissures, etc. (2) Exaggerated reflex excitability

of the cord. The author regards phimosis as the most prolific agent in this classification. Trousseau appears to have been the first to call attention to this fact in 1860, and since then Forni, Tuffier, Beard, Bouisson, Duplay, Schwartz, Birger, and many others, have called especial attention to this form of enuresis.—*Buffalo Med. and Surg. Jour.*

PNEUMONIA WITHOUT COUGH.—A young man, aged 22, contracted the above mentioned disease, which, when I was first sent for, was in the acute inflammatory stage, with high temperature (104° F.) and delirium. The pneumonia ran its usual course of hepatisation and resolution, and all the symptoms—fine crepitation at the base of the lung, tubular breathing, and dulness—were well marked. But one symptom was absent — cough. Each morning when I asked the nurse whether the cough had been troublesome, the answer was that "he had not coughed at all," and as far as I could learn the patient was never troubled in that way all through his illness, except during the primary stage of delirium, when he kicked about somewhat, and then it was very slight. I could never ascertain that he expectorated more than once or twice after the first stage had passed, and the amount would scarcely fill a thimble. Now, he was a man of a particularly phlegmatic disposition, and during his illness he would lie perfectly still and quiet, never speaking to anyone, and never moving voluntarily, and this I take to be the cause of the lack of a prominent symptom, and it suggests to me that a pneumonic case may be saved a considerable amount of pain and distress by insisting upon absolute prohibition from talking, and the minimum amount of movement.—Robert Aldous, in *Br. Med. Jour.*

A GASTRIC JUNK SHOP.—In making a post-mortem examination of the remains of a female lunatic who died lately in the Key Asylum, the doctors had an extraordinary experience (*Ex*). They found in the woman's internal organ's three German silver teaspoons, which had been missing for a month prior to her death, as well as a piece of iron used to connect the handles of a door lock, and two triangular pieces of glass. It also transpired that three days previously another surgeon had abstracted a flat piece of steel five inches long and nearly an inch wide from the throat of the diseased. Yet none of these strange articles of diet had anything to do with her death, which was caused by disease of the brain.—*Med. Review.*

BURDETTE ON THE LOT OF MAN.—Man, born of woman, is of few days and no teeth. And indeed it would be money in his pocket sometimes if he had less of either. As for his days, he wasteth one-third of them. And as for his teeth, he has convulsions when he cut them. And as the last one comes through, lo! the dentist is twirling the first one out; and the last end of that man's jaw is worse than the first, being full or porcelain and a roof-plate built to hold blackberry seeds.—Burdette, in *Med. and Surg. Rep.*

CASCARA SAGRADA IN TAPEWORM.—In the *Therapeutische Monatshefte*, cascara sagrada is highly recommended in the treatment for tapeworm, by Stephens. He uses the following prescription:

℞—Fl. ext. cascara sag., . . . 24 grms.
Syr. orange peel, ... 100 grms.

Sig.—Three times daily, a teaspoonful; for children, three times daily, a half teaspoonful.—*Med. Age.*

CLAIRVOYANCE IN SYRACUSE.—We read (*Med. Rev.*) in the Brooklyn *Medical Journal*: The following is a copy of a letter written to a patient living in Brooklyn by a Syracuse, N. Y., clairvoyant. It would seem that there is an opportunity to enforce the Medical Practice Act in the City of Syracuse:

SYRACUSE, N. Y.

"I examined your belt, and tell you herewith what I seen in the examination. Liver and stomach bad, water on the heart and blood inflammation in kidneys and bowels, catarrh in blood and nerves, and poison in blood, pimples in the lungs and nervousness. It will take three months to cure you. Hoping to hear from you soon, I remain, respectfully yours,

---

"The charges are fifty cents for reading the belt, the medicine is one dollar and twenty-five cents. If you don't wish to doctor here you can write and I will send the fifty cents back."

DR. BREITBACH, of Badkrenscha, Dresden, Germany, November 17, 1892, says:—I have tried Bromidia in a case of insomnia, caused by severe neuralgia, and the result was most satisfactory. Before I prescribed this preparation the patient always asked for injections of morphia, but never afterwards. I think that Bromidia will be of great service in cases where one wants to wean a patient from the habit of taking morphia. I shall certainly continue to prescribe the preparation.

The phamacists of Danville, Va., have made a good move in determining among themselves to keep one store open in rotation on Sunday—all others of the city being kept closed except for two hours in the morning and two hours in the evening of that day. This allows the drug clerks much needed rest, and yet amply supplies all the demands of those who may need medicines.

THE CANADA LANCET.

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AGENTS.—DAWSON BROS., Montreal; J. & A. MCMILLAN, St. John, N.B.; GEO. STREET & Co., 30 Cornhill, London, Eng.; M. H. MAHER 23 Rue Richer, Paris.

TORONTO, APRIL, 1893.

The LANCET has the Largest Circulation of any Medical Journal in Canada.

SURGICAL TREATMENT OF GENERAL PARESIS OF THE INSANE.

The statistics of many insane asylums for the past ten years show a noteworthy increase in the number of patients admitted affected with general paresis, and more than twenty-five per cent. of the deaths in these institutions may be attributed to this disease. This increase of general paresis and the high mortality from it naturally stimulate investigation regarding the possibility of discovering some satisfactory method of treatment. Various remedies have been tried, with more or less satisfaction to their proposers, but the progress of the disease has been only temporarily arrested at best. General paresis is a disease of the brain cortex, chiefly limited to the fronto-parietal areas on the vertex. The researches of Locs, Gattz, and Ferrier have shown that these are the areas chiefly concerned in the higher mental processes, therefore the disease is manifested by mental and motor disturbances. Clouston, Bedan-Lewis, and others think that there is a degeneration of the nerve elements of the cortex, caused by a transfusion of the fluid contents of the cortical arteries into the circumvascular canals and thence into the pia-arachoid spaces into which these canals open. Because of the vascular inflammation of the cortex, causing an interference with nerve-cell nutrition and the exudation of an abnormal fluid causing pressure on the brain, surgical interference has been attempted to give relief to the tension.

A case was reported in the *British Medical Journal* for November 16th, 1889, by Dr. Clayre Staine, in which relief was effected by this operative procedure. The case was one of general paresis, in which an aperture of an inch and a half long by three quarters of an inch wide was made on the right side of the skull over the central sulcus. The operation was performed on July 28th, 1889, by Mr. Cripps, and the patient was up on the tenth day. The mental improvement was immediate and decided. This improvement continued, but the motor symptoms did not improve, although there was no recurrence of convulsions until six months after the operation, when the patient died in a convulsive attack.

A second patient was operated on some months later, and there was subsequent temporary improvement in the mental condition, but none in the motor derangement. It often happens that the same idea strikes different observers at the same time, and Dr. J. Batty Tuke reported in the *British Medical Journal*, for January 4th, 1890, a case under his care in which an operation had been done on May 17th, 1889. In this patient also the mental condition was temporarily improved, though subsequently his original symptoms recurred. More recently Mr. John Macpherson and Mr. David Wallace have reported in the same journal for July 23rd, 1892, five cases of general paralysis in which partial crainectomy was performed. In three cases the left side of the skull was opened and a bilateral bony excision was performed. Surgically the cases progressed uninterruptedly to recovery, and except in one case, there was an improvement in the mental condition lasting from one to three weeks. The authors think that the relief of the pressure by the removal of the fluid, as well as the greater freedom for cerebral expansion resulting from the removal of the bone, combined to produce the change they noted. As the scalp cicatrized and the osseous aperture became filled with fibrous tissue, the patient gradually sank back into his former condition. They think that the operation is indicated in the early stages of the disease in order to be of material benefit.

Dr. C. G. Wagner has reported in the *American Journal of Insanity* for July, 1890, a case in the country, in which he operated on a patient, in advanced stage of general paralysis. The

ation was followed by an impaired mental condition that lasted for several weeks. From these cases, followed by an improved mental condition. We draw our own conclusions. The operation in skilled hands has not resulted in any untoward symptom, and a recourse to it in the early stages of the disease, with subsequent treatment, may afford more permanent relief.

ONTARIO MEDICAL ASSOCIATION.

Editor CANADA LANCET.

SIR.—As will be seen from a reference to the advertising columns the date of the 13th annual meeting has been postponed from the 7th and 8th to the 21st and 22nd of June. The Executive has been led to this step for the reason that the American Medical Association holds its annual meeting in Milwaukee on the 6th, 7th, 8th and 9th June. Another large gathering of physicians will take place in Omaha during the week previous, in connection with the National Association of Railroad Surgeons. Neither of these meetings would interfere with the annual meeting of the Ontario Medical Association under ordinary circumstances, but this year a special effort is being made to organize a large excursion for medical men to the Chicago Exhibition in connection with one or both of the above gatherings, and the railroad authorities are offering persuasive inducements in railroad fares. The Executive in consequence thinks that it would best advance the interests of this Association by postponing the annual meeting two weeks beyond its regular date. The attention of the members is drawn to the change, in order that they may make their plans for the summer in such a way as to allow them to attend this meeting.

D. J. GIBB WISHART,
Gen. Sec.

Toronto, March, 1893.

SOME REMARKS ON THE TREATMENT OF PAIN AND INSOMNIA.—According to Dourdoufi (*Le Méd. and Surg. Rep.*), pain and insomnia are morbid phenomena of much importance, especially from the point of view of their practical signification. They exist in the clinical picture of a large number of diseases both acute and chronic. In the chronic diseases the issue of the pathological process depends largely upon the intensity of these symptoms and the possibility of limiting their deleterious influence. A rational medication of pain and insomnia, based upon the recognition of their pathogeny facilitates the rôle of the physician in his struggle with the disease. Dourdoufi calls attention to a simple method of treating pain in general, and cephalgia especially.

1. In the case of cephalgia if it does not depend upon organic lesions of the nervous system, we have in *percussion with the fingers, or with the finger* upon the parts which are the seat of the pain, a simple and sure method of causing the pain to disappear almost immediately. In the examination of a patient who complained of atrocious pain in the head, Dourdoufi practiced percussion of the skull with the finger, for the purpose of clearing up the nature of the cephalgia. This examination was followed in two or three minutes by an entire disappearance of the cephalgia. The experiment was repeated in a number of instances, and always with the same positive result. The percussion may be made with one or several fingers, taking the precaution not to occasion disagreeable sensations to the patient. This may be accomplished by controlling the intensity of the percussion according to the sensitiveness of the patient, and gradually increasing the force of the blows. As a general rule the percussion should never be too intense. This method ameliorates and even causes the entire disappearance of every form of headache of a functual nature, without organic lesion; hemicrania, and headaches of neurasthenic, hysterical, and anemic patients. The same method has been applied to the muscular pains of neurasthenics with the same positive result. Percussion with the fingers for three to five minutes has caused the muscular pains to disappear in cases where the application of eletricity (galvinization and franklinization) and massage have remained ineffectual. 2. Dourdoufi has also obtained very satisfactory results in the treatment of *rebellious insomnia* by another therapeutic method. A young man, thirty years of age, who had been tortured for several months by an insomnia for which sulphonal (2 grammes) and chloral (2·3 grammes) had been used without effect, applied to him. He advised his patient to take, after retiring, some cold milk (previously boiled,)

three teacupfuls, and if possible more. This was taken every evening during the first hour and a half after retiring, the amount varying from three to six cupfuls. The result was very good, a calm sleep following, which lasted on an average eight hours. It was worth while to note that this result was obtained in an individual in whom sulphonal and chloral had not produced the slightest somnolence.

THYROID EXTRACT IN MYXŒDEMA.—The series of papers and illustrated cases which have been published during the past eighteen months in the *British Medical Journal*, will have sufficed to prove to our readers that, in the treatment of myxœdema by thyroid extract, scientific medicine has achieved one of the most striking and significant triumphs which has ever been won in the field of practice. Much interest was excited at the meeting of the Clinical Society last week by the presence of a series of patients who had been treated in this way. Four of them had been treated by Dr. Arthur Davies with thyroid extract in powder, one powder (corresponding to an eighth of an entire thyroid from the sheep) being given every day in tepid beef tea. All the patients had rapidly improved, one special indication of the improvement being the somewhat rapid loss of weight, which commenced as soon as the treatment was begun. Another patient had been treated by raw gland given twice a week, at first with half a small gland for a dose, and lately with a whole gland daily. This was too large a dose, however, for after the administration of five glands in the above manner toxic symptoms were developed, accompanied by extreme feebleness of the heart; whereupon the quantity of the gland taken was reduced. Dr. Calvert's patients had been treated with half a thyroid three times a week, fried sufficiently to render it palatable. Dr. G. R. Murray (Newcastle), detailed his experience of glycerine solution of thyroid juice. He now injects very slowly under the skin 15 minims of a solution, of which 90 minims correspond to one sheep's thyroid He had found that to produce the same effect four times as much had to be administered by the mouth as was required when the remedy was injected beneath the skin. The treatment occupied two stages, the first lasting until the subsidence of the symptoms; the second, when a much smaller dose was required, was designed to maintain the patient in health. The actual dose that sufficed for this purpose was a fortnightly injection of 20 minims. The very great benefit accruing to the patients, in whatever way the remedy might have been administered, was very evident, and, as Dr. Ord observed, was all the more gratifying from the fact that two years ago the disease was regarded as incurable.

THE AMERICAN GIRL.—This young compatriot of ours (*Harper's Bazar*) no longer laces herself to breathlessness and a red nose and a pimpled forehead, pushing what flesh there is into regions where it makes deformity; she wears corsets, but only to outline and partially support, never to press or pinch, and thus her digestive organs are kept free to do their work and assist in preparing the rounded and velvety surfaces, the glow in the eye, the blush upon the cheek, the dye of the soft lips; for, unpoetical as it appears, the laboratory of beauty is in the stomach. In addition to all this, the American girl is no longer ashamed of her foot. She used to think it a disgrace if she wore a larger shoe or boot than a No. 2½; if she wore fours, she managed them; if she wore fives, she hid her foot. Now she understands that it is a law of statuesque beauty that a body should have an extremity apparently equal to its support—a woman a foot big enough to stand on, and *bien chaussée*, *bien gantée*, she never dreams of lengthening her skirt because her shoe is a six or seven, or of keeping her hands out of sight because they did not stop growing when she was ten years old. Owing to this last act of wisdom she can walk with freedom where she will, without pinched feet or any of the discomfort that urges her to sit still; and thus she takes with delight the exercise which does so much for her, which fills her lungs with fresh air, and oxygenates her blood, and gives it all its life and sparkle wherever its effects are visible. After all, it is common-sense, the appreciation that nature says how much to eat and what to wear that has reformed an ailing and early withered woman into a beauty of the old Greek type.

OPERATIVE TREATMENT OF WANDERING KIDNEY.—Herezel (*Beitrage zur klin. Chir.*—*Br. Md. Jour.* concludes a report on the surgical treatment of

wandering kidney in Czerny's clinic, with the following summary: 1. In every uncomplicated case of wandering kidney recourse to operation is justifiable when internal treatment, massage and the use of belts have failed. 2. The kidney should be sutured after exposure by the lumbar incision, the fibrous capsule being freely opened and the cortcial substance of the organ well exposed. 3. The parenchyma should be traversed by catgut sutures, and the capsule with sutures either of catgut or of silkworm gut. The most favorable condition for primary healing is the apposition and union of broad raw surfaces. In order to insure this, divided muscular layers must be brought together by catgut sutures, the wound should not be drained, and the patient remain in bed for three weeks at least after the date of operation, 4. The intra-peritoneal method of fixation is to be reserved for those cases in which the diagnosis is doubtful, and when it is necessary to perform exploratory laparotomy in order to throw light on the condition of things. 5. Nephrectomy is indicated only in cases in which the wandering kidney is the seat of a morbid growth, or is prevented by adhesions from being brought back to its normal position. 6. Even after repeated failure of an operation for suturing the kidney, the surgeon may still hope to obtain success by practising some better method.

SULPHATE OF COPPER IN ENDOMETRITIS.—*Le Bull. Générale de Therap.* publishes an interesting contribution to the study of the therapeutic action of sulphate of copper in the treatment of endometritis. The cases reported are 10 in number, of which 1 was of a catarrhal, 1 of post-puerperal, 1 of puerperal, and 7 of a blennorrhagic character. The ages of the patients varied from sixteen to twenty-three years. In all of these cases the remedy in question was, in the form of pencils, applied locally. The results, as a whole, were highly satisfactory. The author affirms that the drug acts superficially, and does not produce the deep scars caused by chloride of zinc; that its effects are less powerful but more certain than those of the latter medicament. Again, the copper did not produce atresia of the uterine neck. All the cases treated, especially those of the blennorrhagic nature, failed to be benefited by other therapeutic measures, but were cured under the copper treatment in a comparatively short period of time—that is, in from four to twenty-five days. The employment of the remedy was *never renewed;* one application was always sufficient to produce the desired effect. The author further recommends, before the use of the copper treatment, the observance of the following rules: (1) antisepsis of the genital organs for two or three days; (2) rest in bed; (3) the administration, one day previous to the copper application, of bromide of potassium, to be repeated on the following day, also, if necessary, a uterine injection of chloral.

ILLEGITIMACY IN GREAT BRITAIN.—Statistics concerning illegitimacy, published by Dr. Albert Leffingwell, show (*Med. Rec.*), that in the matter of sexual morality the Irish are superior to all other peoples. The ratio of illegitimate births among the Irish is only 26 per 1,000, among the English 48 per 1,000, and among the Scotch 82 per 1,000. Next to the Irish come the Russians, with 28 per 1,000, the Dutch have 32 per 1,000, the Italians 74 per 1,000, the French 82, or the same as the Scotch. In Sweden, Saxony, and Bavaria the rate is still higher, and ranges from 100 to 140 per 1,000. Austria is at the opposite pole from Ireland with 146 per 1,000. Dr. Leffingwell discusses the accredited causes of illegitimacy, for example, poverty, ignorance, and the contamination of great cities, but only to find that these statistics belie them all. Ireland, for example, is one of the poorest countries; Russia is not only a poor, but an extremely ignorant country. The influence of great cities appears to be equally fallacious. Neither education nor religious creed account for the facts. Scotland, for example, is a very highly-educated country; Italy and Austria are Catholic as well as Ireland. Dr. Leffingwell comes to the conclusion that race and heredity, the marriage laws, social usage, and similar circumstances are important factors in the case.

THE DIFFERENT FORMS OF CARDIAC PAIN.—Dr. Chew (*Med. News*) states that "cardiac pain," or "pain in the heart," is found as a concomitant in three different conditions: Angina pectoris; any condition which brings about an obstruction or resistance to the flow of blood through the arterioles, such as arterio-sclerosis;

and third, cardiac dilatation. When these three forms of disease are considered together, and an endeavor made to co-ordinate them as their cause, it is quite possible that the chief factor in the production of pain common to all of them is pressure brought to bear upon the cardiac nerves or upon the cardiac ganglia themselves. The connection between these ganglia and the cervical and brachial plexuses give a ready explanation of the extension of the pain to the arms that may occur in any form of cardiac pain. In the first, or strictly paroxysmal form, true angina, the pressure may be occasioned by the sudden tension of the arterioles; in the second form by the general sclerotic condition of the vessels; and in the third form with dilatation of the heart, by the attenuation of the heart-walls.

MEMORIZING DOSES.—Dr. G. A. Wiggins gives (*Pharm. Rec.*) the following rules:

1. The dose of all infusions is 1 to 2 ounces, except infusions of digitalis, which is 2 to 4 drachms.
2. All poisonous tinctures 5 to 20 minims, except tincture of aconite, which is 1 to 5.
3. All wines, from ½ to 3 fluid drachms, except wine of opium, which is 5 to 15 minims.
4. All poisonous solid extracts you can give ½ grain, except extract of calabar bean, which is 1-12 to ¼ grain.
5. All dilute acids, from 5 to 20 minims, except dilute hydrocyanic acid, which is 2 to 8 minims.
6. All aquæ, from 1 to ounces, except aqua laurocerasus and aqua ammonia, which are 10 to 30 minims.
7. All medicated syrups you can give 1 drachm.
8. All mixtures, from ½ to 1 fluid ounce.
9. All spirits, from ½ to 1 fluid drachm.
10. All essential oils, from 1 to 5 minims.

This of course applies to the U. S. P.

POISONING BY SULPHONAL.—Kast (*Arch. f. exp. Path. u. Pharm.*, from a study of the published cases in which poisonous effects have followed the use of sulponal for a prolonged poriod, gives the following as characteristics of the condition of chronic poisoning by the drug: (1) Disturbances of digestion, as vomiting, diarrhœa, or constipation; (2) of the nervous system, as ataxy and feeblness of the limbs, ptosis, and ascending paralysis; (3) ischuria, oliguria, sometimes albuminuria, or the presence of hæmatoporphrin. These are the chief signs. Kast is of opinion that a cumulative action of the drug produces, instead of transitory diminution of the nervous excitabiiity, a permanent depression thereof, just similar to that caused by a single large dose. He finds the dose best calculated to produce a hypnotic effect is about 30 grains for a man and half the quantity for a woman. These quantities should be the maximum daily doses. He advises also that an interruption should be made from time to time in the use of the drug, so as to ensure its elimination. Loss of appetite, vomiting, or pains in the stomach he regards as indications for the immediate discontinuance of the remedy.

SALOL FOR GONNORRHŒA.—Dr. C. Underwood says (*West. Med. Rep., U.S.*) that salol can reduce the duration of gonnorrhœa to the lowest limits. The method consists in the regular employment of from forty to sixty grains of salol through the day. I order my patients to have four doses of from ten to fifteen grains each, taken immediately on rising in the morning, at 11 o'clock a.m., 4 o'clock p.m., and the last thing on retiring to bed at night. This I ordered in a powder or compressed tablets. Having known that many of these tablets passed through the intestinal canal without being absorbed and in the form they were administered, I am now using the drug in a powder form. It is tasteless, and is not complained of by patients. The dose is begun, unless the patient shows that the drug disagrees with him, with sixty grains a day, continued until the discharge has become very meagre. Then it is gradually lessened. The author claims that better results follow this method than any other.

SUBCUTANEOUS INJECTIONS OF NORMAL NERVE SUBSTANCE IN EPILEPSY AND NEURASTHENIA.—Babes (*Deutsch. Med. Woch.—Br. Med. Jour.*)—records the results of this method of treatment in a large number of patients. Normal brain and spinal cord were made into an emulsion with broth in the proportion of 1 gramme of the nerve tissue to 5 grammes of broth. Of this 4 to 5 grammes were injected in the abdomen or flank five to six times a week in epileptics, and four to five times a week in neurasthenics. A large number of epileptics were cured, and others greatly improved.

Good results were also obtained in melancholia' neurasthenia, and cases of slow heart action. A case of sleeplessness, in which all known narcotics, even in large doses, had failed, was cured after three injections. A patient with cephalalgia of over a year's duration was remarkably improved after seven injections. Syncopal attacks and a paralytic condition in another patient disappeared after sixteen injections. Sciatica of a month's standing was cured by three injections.

PEOPLE who rejoice in the ability to live comfortably with a minimum of sleep usually display marked intolerance of the habits of the average human being who requires a more liberal allowance of "nature's sweet restorer." (*Hosp. Gaz.*) Only lately a certain eminent physician expressed the deliberate opinion that a large proportion of our ailments are due to over-indulgence in sleep, reminding us of the oft-quoted maxim of George III., of blessed memory—"Six hours for a man, seven for a woman, and eight for a fool." Personally, I resent this uncalled-for attack on my habits, for I infinitely prefer Sir James Sawyer's pithy injunction about going to bed when one can, and getting up when one must. Assuredly very few practitioners in the great metropolis suffer from an excess of sleep, and most of us would be the better if we adopted the sage advice to spend one day a month in bed.

INCOMPATIBILITIES OF ANTIPYRINE.—The following drugs (*Gaz. des Hop.*), are chemically incompatible with antipyrine, precipitating it from an aqueous solution: 1, Carbolic acid in strong solution; 2, tannin and substances containing it; 3, tincture of iodine; 4, the chlorides of mercury. The following decompose antipyrine when rubbed up with it dry in a mortar: 1, Calomel, which forms a toxic compound with antipyrine; 2, naphthol *b*; 3, chloral, which with it forms an oleaginous liquid; 4, bicarbonate of sodium; when this is mixed with antipyrine, an odor of acetic ether is given off; 5, salicylate of sodium, which like chloral forms an oleaginous mixture: 6, the salts of quinine and of caffeine, the solubility of which is increased by antipyrine.

EFFECTS OF ANTISEPTICS ON VIRILITY.—Attention is called by Dr. Van Den Corput (*Rev. Therap.; Med. and Surg. Rep.*) to the diminution of virile power which he has observed in patients to whom he had prescribed antiseptics, such as salicylic acid, quinine, menthol, carbolic acid. The author supposes that these antiseptics act on the blood elements, and on the seminal cells as on inferior organisms. The spermatozoids become in effect completely immobile under the microscope, like all the leucocytes, which lose their amœboid movements, and can no longer effect their migrations. Salicylic acid acts in the same manner upon the ovary, and causes the lengthening of the menstrual period.

TREATMENT OF ERYSIPELAS.—Dr. Alex Winkler (*Therap. Monats.*), recommends painting the affected parts every three hours with:

Tannic acid, ...	1.0—1.5
Camphor, ...	1.0—3.0
Ether, ...	8.0

This removes the fever in a few hours and a cure is effected in two or three days. In place of the above we may use:

Camphor, ...	25.0
Ether, ...	50.0

This is to be brushed on every five hours. Dr. Ringier has used the above formula with excellent results in lymphangitis, in erysipelas ambulans and mild cases of erysipelous of the extremities. In cutaneous diseases having an erysipelatoid character, it also proved very useful. Such cases occur especially in the practice of the country physician, and are probably due to infection resulting from insignificant traumatisms. To prevent deposition of tannin from the above mixture, Ringier adds a little alcohol (5.0—6.0 tannin, 6.0—7.0 camphor tritur., 50.0 ether, and 5.0 spirit vini rectificat.). This is applied every two hours.

THE AMERICAN ELECTRO-THERAPEUTIC ASSOCIATION.—The third annual meeting will be held in Chicago on September 12th, 13th and 14th, 1893. A cordial invitation is extended to all members of the profession interested in electro-therapeutics. Arrangements for special rates on railways and at hotels are in progress. The Committee of Arrangements will be obliged if those who intend being present at the meeting will send their names, the class and amount of accommodation required, titles of papers to be presented, applications for membership, etc., at as ealy a date as possible.

SEA SICKNESS.—A preventive measure proposed by Dr. Ames Brunton in the *British Medical Journal* (*N. Y. Med. Rec.*), of recent date consists in the applying of a leather strap around the lower part of the thorax and epigastrium. It is put on previous to going on board, and is drawn very tight, and must be kept on till the traveler gains his "sea-legs." This hint, Dr. Brunton says, he "obtained from a gentleman who was previously a martyr to sea-sickness, but now in his frequent journeys across the Channel makes them with comfort. If necessary, a pad over the epigastrium can be added.

JADELOT'S LINES.—The following, known as "Jadelot's Lines," are said to be of value as an aid to diagnosis in diseases of children: *1. Brain and Nervous System.—Oculo-Zygomatic Line.*—Begins at inner canthus of eye, passes downwards and outwards beneath lower lid, and is lost on the cheek, a little below the malar projection. *2. Abdominal—Nasal Line.*—Rises at the upper part of the ala of the nose, passes downwards, curling around the corner of the mouth. Always present in gastro-enteric disturbances. *3. Thoracic—Labial Line.*—Begins at the angle of the mouth and runs outward, to be lost in the lower part of the face.

SNUFF FOR ACUTE CORYZA.—Tissier recommends the following snuff for the relief of a cold in the head (*Med. World*):

℞.—Menthol, ... gr. vj.
Powdered boracic acid, . . ʒij.
Subnitrate of bismuth,
Powdered benzoin, ... āā ʒiij.

A good-sized pinch of this may be snuffed up five or six times a day. If desired, one grain of morphine and a half drachm of calomel may be added to the mixture, the addition apparently increasing its efficacy in certain cases.

ASEPTIC WOUND TREATMENT.—Dr. A. Neuber (*Centralbl. f. Chir.*) has given up the use of drainage, which he regards as a necessary evil of the antiseptic method. He employs strict aseptic precautions during operation, fills the wound with boiled gauze, and sutures its entire extent except a small space. Through the latter he withdraws the gauze, together with blood, air, etc., from the interior of the wound, at once sutures the opening and applies a dressing consisting of a sponge enveloped in sterilized gauze and fixed by strips of adhesive plaster or a muslin bandage. The dressing remains *in situ* until the time when healing is expected, and after its removal the wound is usually found completely healed.

ASTHMA.—Dr. Kinnear (*N Y. Med. Jour.*,) expresses the view that the asthmatic paroxysm is dependent upon hyperemia of the pneumogastric centre in the medulla, induced by various influences. A rational mode of treatment would be directed to the control of the blood supply to the nervous system. With this end in view, it is recommended that an ice-bag be applied to the spine for longer or shorter periods. Such practice has been attended with good results, immediate and remote, the paroxysm being terminated, and concomitant symptoms being relieved.

THE USE OF CHLORAL IN THE TREATMENT OF BOILS.—M. Sphen (*Bull. Gen. de Therap.*) recommends very highly, as far superior to all other treatment, the use of chloral externally in this troublesome class of affections. He directs that the boil be kept covered with a tampon of cotton-wool soaked in the following solution:

℞—Chloral hydrat. . . . . ʒ iiss.
Aquæ
Glycerin. . . . . āā fʒv.—M.

ABRASIONS—CUTANEOUS DISORDERS.—This antiseptic adhesive ointment (*Med. Brief*) protects the surface of the wound and is of especial service in dressing wounds of the face, and valuable in cutaneous eruption, excoriation and ulceration:

℞.—Zinci oxidi, ... 5 grains.
Zinci chloridi, ... 20 grains.
Gelatinæ, ... 6 drachms.
Listerine, ... 7 ounces.

M—The gelatine to be dissolved in listerine by aid of gentle heat.

IMPORTANT TO REMEMBER.—The return of the menstrual flow, according to Thomas, after the menopause usually means malignancy, and in such cases the patients should be subjected to careful examination at once.

RHEUMATIC PAINS.—Rhus toxicodendron is recommended by several writers in the American Therapeutist as particulatly efficacious in sciatica

and other forms of neuralgia occurring in individ- with a rheumatic tendency.

A GEORGIA EDITOR WANTS HIS MONEY.—The following (*Baltimore Sun*) is from the pen of a Georgia editor who evidently had strong feelings on the subject: "The wind bloweth, the water floweth, the farmer soweth, the subscriber oweth, and the Lord knoweth that we are in need of our dues. So come a-runnin' ere we go a-gunnin'; we're not funnin'; this thing of dunnin' gives us the blues."

PAGET'S DISEASE OF NIPPLE TREATED WITH FUCHSIN.—Geo. J. Elliott (*Jour. of Cut. and Gen. Urinary Diseases*), obtained favorable results with an ointment of fuchsin, three or four grains to the ounce of equal parts of lanolin and cold-cream ointment. It is not brought forward as a curative agent, but as a remedy which stays the progress of the disease, relieves the itching and soreness, aids cicatrization, and is useful where operative interference is not permissible.

FOR coryza, a writer in *L' Union Méd.*, suggests:

R.—Naphthaline in impalpable powder, ʒ vj.
Powdered boric acid, ... ʒ vj.
Powdered camphor, ... gr. xv.
Extract of violets, ... gr. xv.
Essence of roses, ... gtt. xx.
Sig.—Mix and use as a snuff.

CHLOLAGOGUE TABLETS.—Huchard, (*Med. and Surg. Reporter*) recommends:

R.—Sodii Benzoat.
Sodii Salicylat.
Pulv. Rhei. Rad. . . . . āā ʒj
Ext. Nuc Vomicæ. . . . . gr. v
M.—Ft. tabellæ, No. xx. Sig. One at each meal.

THE ELEVENTH INTERNATIONAL MEDICAL CONGRESS.—All communications relative to the approaching Rome Congress should be addressed to the Segretaria Générale del' XI. Congresso Medico Internazionale, presso la Clinica Medica, Ospedale di Pammatone, Genoa.

In puerperal eclampsia (*Lancet-Clinic*), when the spasms are apparently under control, look out for a return of the spasms if the pupil remains contracted.

SORE NIPPLES.—Dr. Oehren recommends (*Ther. Monats.*) ichthyol in the treatment of sore nipples, according to the following formula:

R—Ichthyol, ... 1 drachm.
Lanolin, ... 1¼ drachm.
Glycerin, ... 1¼ drachm.
Olive oil, ... 2½ drachms.

Books and Pamphlets.

A MANUAL OF BACTERIOLOGY. By George M. Sternberg, M.D., Deputy Surgeon-General, U.S. Army, Director of the Hoagland Laboratory, Brooklyn, N. Y., etc. Illustrated by chromo-lithographs and heliotype plates, and 268 engravings. New York: Wm. Wood & Co. 1892.

This is a most complete and systematic treatise upon the whole subject, brought up to date by the pioneer and best authority in the subject this side the Atlantic. The work seems to be in all points of view, both the publishers' and the author's, complete. The indexes are exhaustive, the bibliography most thorough, correct, and ample and the plates and illustrations perfect. The systematic and scientific handling of the subject is pleasant to contemplate, and even to the general practitioner, who, perhaps, has not seen a bacillus since graduation, much of the book would be most interesting, for instance, the experiments of the brothers Klimperer, in 1891, with pneumotoxin, and the bearing of their "anti-pneumotoxin" upon Metschnikoff's theory of immunity. It would hardly seem fair to give so important a new work a mere "table of contents" criticism, but its scope is well-seen in the table of contents. Part I, deals with classification, morphology, and general technology, *i. e.* methods of staining, culture-methods, inventative experiments, photography, and so on. Part II, is a treatise upon general biological characters, structure, motion, re-production, products of growth (ptomaines, etc.), antiseptics, disinfectants, etc. Part III, discusses every conceivable variety of pathogenic bacteria, apart altogether from merely medicinal or surgical varieties, from the laboratory point of view solely; while Part IV, discusses likewise the saprophytes or non-pathogenic bacteria. A more complete text book for the student of bacteriology could not be desired.

THE CANADA LANCET.

A MONTHLY JOURNAL OF

MEDICAL AND SURGICAL SCIENCE, CRITICISM AND NEWS.

Original Communications.

VIBRATORY MEDICINE.*

* Lecture delivered by Professor Charcot at the Salpêtrière, Paris. Translated from the original by D. Campbell Meyers, M.D., Toronto.

GENTLEMEN,—It was in 1878, in my service at the Salpêtrière, that M. Vigouroux commenced the trial of a method of which I wish to speak to you to-day: the treatment of certain affections of the nervous system by mechanical vibrations. M. Vigouroux at first studied the effects of these vibrations on several hysterics. By means of an enormous tuning fork put in action, he succeeded in dispelling hemianæsthesia and in breaking up contractures nearly as rapidly as with the magnet or the electric spark. He also calmed the lightning pains in a patient suffering from locomotor ataxia. As the result of a number of experiments of the same kind he was enabled to establish that the vibrations of a tuning fork have exactly the same physiological actions as the metals, the magnet and static electricity. The following year Schiff arrived theoretically at the same conclusions.

These experiments were not continued, and we must pass on to the 1880 period at which a distinguished electrician, M. Boudet, of Paris, began some new experiments which led him to some very important results. M. Boudet studied especially localized vibrations, or rather those he made to act locally. He constructed a tuning fork, mounted electrically, and fitted to the board-support of the tuning fork, at the point where the vibrations are felt with the greatest intensity, a small rod of copper, about twelve centimetres long, and terminated by a disc, which was applied to the part of the body or the nerve which one desired to submit to the vibrations. The disc was of small surface dimensions to prevent the diffusion of the vibrations, but in order to localize them better the disc may be terminated by a blunt point.

The first experiments of M. Boudet were made on a healthy man, devoid of any alteration of sensibility. On applying the vibrating rod on a rather sensitive region of the skin, the supra orbital, for example, he produced in a few moments a local analgesia, and even a very marked anæsthesia, which lasted from eight to twenty minutes, varying with the different subjects.

"The same experiment tried, he says, on different parts of the body leads to a like result, with this consideration that the effects are the more rapid and complete according as (1) one acts nearer to a sensitive branch (2) the tissues have less thickness and the base on which they rest is more resistant. The greatest effect is hence obtained on the forehead, the temples, the gums, the mastoid processes, etc., in a word, on all the points where the sensory nerves can be easily compressed on an osseous surface by the vibrating disc."

In acting in this manner one can rapidly calm diverse neuralgias, facial neuralgia in particular. The number of vibrations per minute is of little importance; it is not the same with the intensity and energy which within given limits are indispensable.

The article which he published in regard to it contained besides some other considerations, which for being less well explained are not less interesting.

"When one applies," he says, "the instrument on one of the points (of the face) that we have just cited the walls of the cranium vibrate in unison with the tuning fork as the sides of a drum would do, and one experiences a peculiar sensation that certain subjects compare to the commencement of vertigo, and which in certain others determines a very marked desire to sleep.

"In the cases of migraine, even benign, these very rapid vibrations communicated to the cranial walls, and in consequence to the encephalon leads to the cessation at the end of a few minutes, and often even cuts short the attack when taken at its commencement. We have been able, thanks to this procedure, to ourselves avoid some attacks of migraine which paralyzed us usually for many hours, and we are certain that many dyspeptics and rheumatics afflicted with the same evil will find therein a precious remedy for their sufferings."

M. Boudet terminates by expressing the very probable hypothesis that the transmission of the

vibrations to the brain plays a rôle in the production of these effects.

Scarcely had the author published his article when the question of priority arose.

Dr. Jennings wrote a letter published by the *Progrès Médical*, February 19th, 1881, in which it was said that for four years Dr. Mortimer Granville, of London, applied the same method of vibrations for the cure of pain. He had even invented a special instrument called "the percuteur" which had been tried with relative success in a hospital in Paris.

M. Boudet recalled the experiments of M. Vigouroux, said that neither Dr. Mortimer Granville nor himself had "invented the vibrations," and desirous, perhaps of avoiding all future discussions, cut short his researches.

M. Granville, however, in a book which appeared in 1883, tells us the results of the method which he has employed in the treatment of certain diseases of the nervous system. The work of M. Granville may be divided into two parts: one theoretical, one practical, the second resulting directly from the first.

Vibration gives to the nerve which serves to conduct it the energy that it had lost. M. Mortimer Granville proposes to always act *locally*. He makes use of a percuteur, the "clock work percuteur," the mechanism of which recalls that of the striking part of a clock. This apparatus is convenient for the practitioner, it is portable and difficult to put out of order, but the doctor who devotes himself especially to percussion will employ in preference the system set in motion by electricity. The rod, percussing much rather than vibrating, is of a variable form; a button, a disc, a small hammer with a flat head, a pencil or brush. According as one wishes to act locally or over a more extensive surface, one can even place a painful foot in water for example, and make use of this latter to diffuse the vibrations. The séances have a variable duration according to the case.

The results that he has obtained in the treatment of certain neuralgias, in particular of facial neuralgia, are remarkable. But the treatment is especially to be recommended in neurasthenia, cerebral or spinal, in migraine and in insomnia. If a headache is localized, one percusses and causes to vibrate locally the nerves and nervous plexuses of the neighborhood; if it is more extended as in migraine, one passes the vibrating brush from before backwards. The same procedure is followed in the pains of neurasthenia which are localized the length of the vertebal column. Let us retain these different methods of treatment, we will be obliged to recall them presently.

For a long time I have taught patients attacked by paralysis agitans that they would derive great benefit from voyages on a railway or in a carriage. During the entire duration of the voyage the sensations so troublesome and at times so painful, which are the almost necessary cortège of this disease, seem to disappear almost completely; the benefit lasting a certain time after the termination of the voyage. I had very often occasion to remark these facts to the students who followed my lectures, and I expressed the hypothesis more than once that good effects would follow the treatment of Parkinson's disease by a procedure which would resemble the combination of movements communicated to the body by a carriage in motion.

One of my hearers, Dr. Jégu, proposed to me to search for an apparatus realizing these desiderata. Aided by a distinguished engineer, M. Solignac, he constructed an arm chair in which a special mechanism communicated rapid movements of oscillation around an anterior and lateral axis. These movements combined and opposed produced a vibration, a rapid trembling, very like, as you may judge for yourself by sitting in the chair, to that which one experiences when seated in a railway carriage in motion. The apparatus installed, M. Jégu had no trouble in finding subjects for experiment among the patients of my service, and those who frequented my polyclinic, but death came suddenly to overtake him in the midst of his researches.

At my request, M. Gilles de la Tourette, my former *chef de clinique*, was kind enough to continue the experiments which had been interrupted. These have been tried as yet on eight subjects, six men and two women. Unfortunately these, for the most part, have not belonged to the service, and several for diverse causes have followed the treatment irregularly.

Without seeking to analyze one by one the satisfactory results which have been obtained, one is permitted at present to form a general idea of the action of the treatment.

Improvement generally makes itself felt after

the fifth or sixth séance. This change is felt especially in the painful phenomena which so frequently accompany Parkinson's disease.

Immediately after quitting the shaking chair, the patient feels himself lighter, it seems that his stiffness has disappeared, he walks better than before. Phenomenon nearly constant, the nights become good, the patient who tossed about incessantly in his bed, sleeps with a calm sleep which procures him a great relief. Except in one case the trembling did not appear to be sensibly influenced. This well-being makes itself felt especially the day of the treatment, hence the necessity of having daily séances. Unfortunately that is difficult at the Salpêtrière. The chair is moved by an electro-motor, and three times weekly we make use of that electricity to run the static machines. Besides, the séances have not perhaps been sufficiently prolonged. In fact it is difficult to give, when one has a certain number of patients, more than a quarter of an hour or twenty minutes to each one. We soon hope to overcome these desiderata; however it may be the results that we have obtained are most encouraging, the researches will be continued, and I will take the occasion to keep you *au courant* with what results we obtain. It is already a great deal to be able to help patients suffering from paralysis agitans, on whom ordinary medicines act with little efficacy as you know.

M. Gilles de la Tourette has not limited himself to watching the action of the shaking chair and to note his results, he has sought other applications of the vibratory method.

The results that I have indicated to you obtained by M. M. Boudet and Mortimer Granville had attracted his attention. To cure certain neuralgias, to possess a remedy which was said to be almost heroic against migraine, to give sleep to patients, to dispel the symptoms of neurasthenia, is no small matter in medicine.

M. Gilles de la Tourette had remarked in reading the article of M. Boudet that the latter expressed the hypothesis that the local vibrations are diffused through the whole cranial walls, putting in their turn the brain in vibration, and that the results obtained might, indeed, be due to those mechanical vibrations transmitted to the encephalon.

It is not doubtful, moreover, that besides the pointed rod, the discs and the brush employed by M. Mortimer Granville, may not act in the same manner. He constructed a sort of headpiece, with divided sides, and by the aid of a very simple contrivance these sides of it exactly fit the head of the subject for experiment. The headpiece is surmounted by a flat surface on which is placed a small special motor driven by a simple battery. The entire apparatus is easy to manage, very portable, and its machinery can run, so to speak, without interruption, without fear of derangement. The little motor gives about 6,000 turns a minute, all very regular, producing a continuous vibration which is transmitted to the entire cranium by the sides of the headpieces. The entire head vibrates as a whole, as one can easily assure one's self by placing the hands on one mastoid process. The apparatus in action produces a continuous sound, sort of soft buzzing, which is not perhaps immaterial to note on account of the pathogenesis of the results obtained. One can at will increase or diminish both the number and the amplitude of the vibrations by a very simple regulating mechanism.

The apparatus placed on the head of a *healthy* subject is perfectly well supported and its action does not produce the slightest inconvenience. At the end of seven or eight minutes one has a sensation of numbness which invades the entire body and almost invariably induces sleep. In fact the experiment has shown that a séance of 10 minutes made about six o'clock in the evening would produce a calm sleep, the corresponding night. Eight or ten séances overcome insominia where this is not due to any organic affection of the cerebrum

In three cases the vibration proved very efficacious, as Boudet had already remarked, to abort an attack of migraine.

Three persons attacked by neurasthenia have been treated by this method, two were cured, the third interrupted the treatment at a time when she was already improved but not cured.

Vibration acts by dispelling at first the cephalic symptoms, especially the vertigo and the painful band, so special to this affection. What seems to show distinctly that the vibrations act particularly upon the encephalon is, that in a case in which the spinal phenomena were predomimant, the weakness of the lower extremities, the relative sexual impotence disappeared without the recourse to

vibrations along the vertebral column. With this patient static electricity had completely failed.

It is no longer doubtful after what I have said, that vibration, practiced in this way, is a powerful sedative to the nervous system.

One knows that for a long time alienists employ in the treatment of certain forms of insanity, trans-cerebral currents. One can conceive that the rapid vibrations conveyed to the encephpalon may lead to very beneficent modifications. In a case of melancholic depression some very favorable results have been obtained, and vibration seems to have completely checked the march of an attack which, at the time the treatment commenced, showed no sign whatever of retrogression.

I can say no more at present, but as you see the experiments are being actively continued; what I have reported is to show you the advantages that may be obtained from vibratory medicine.

DIAGNOSIS OF LOBAR FROM LOBULAR PNEUMONIA AND OF PNEUMONIA FROM BRONCHITIS IN CHILDREN.*

BY H. T. MACHELL, M.D.,
Professor of Obstetrics, Woman's Medical College, Toronto.

In children, the histories of these two diseases differ very considerably, and where an intelligent account of the symptoms in the early stage of the illness can be obtained, it is often of very great assistance in making out a diagnosis. The age may give us some clue.

Lobar pneumonia usually occurs in children over three years of age (Northrup, New York), though Jacobi thinks it does not occur, as a rule, till eight or ten years have been reached. Again, he says, "babies a few weeks old are apt to have lobar pneumonia, and until they are five or six weeks old I have seen more lobar than catarrhal, but after that, the vast majority exhibit the lobular form." Of Holt's 207 cases of pneumonia under three years of age at the New York Infant Asylum, 77 % were cases of broncho-pneumonia and 23 % were of lobar pneumonia. So that from birth to five or six weeks, the greater number of these cases are likely to be lobar, and from that date to three years at least three-fourths will be lobular. From ten years of age (Jacobi) the lobar form, as in the adult, will be found to prevail. (I use the terms lobular pneumonia and broncho-pneumonia synonymously, though as a matter of fact the latter expression is more indicative of the actual condition).

The acute nature of the disease and the sudden onset are suggestive of the lobar form, which is usually ushered in with vomiting, chills, epigastric pain, headache, delirium or convulsions; while in the lobular variety there is a history of bronchitis, measles, whooping-cough, scarlatina, etc. The one follows apparently perfect health, and seems to knock the child over without any cause; the other can nearly always be traced to some of the above-mentioned diseases as a cause. In the one, from a condition of perfect health, the child suddenly becomes flushed in the face, vomits, has some cough, is dull, heavy, stupid and often delirious; in the other there is merely an aggravation of the symptoms from which the child has been suffering. Often it is a little worse affected, and that is all that is noticed.

Temperature. — Lobar pneumonia is usually ushered in by a well-marked rigor in children old enough to notice it, and speedily followed by a rapid elevation of temperature; in infancy and early childhood frequently ranging from 103° to 106° F., with morning subsidence and evening rise, of one or more degrees, and a sudden and generally permanent depression about the seventh to ninth day (T. S. Lattimer). There is also a difference in the temperature of the two sides.

In broncho-pneumonia the temperature is the same on either side, it is more irregular, it ascends more gradually, but there is a greater morning remission—frequently 3 to 4° F. Besides this, it is not uncommon to observe a morning temperature which is considerably higher than that of the evening (F. Gower Morrill).* In cases which accompany or follow measles and in uncomplicated cases where considerable areas of lung are involved, the temperature is higher.

The pulse in lobar pneumonia in the early stage is usually moderately rapid—120 to 160—strong and full, indicating strength, but soon becoming small and irregular (Loomis) In the lobular form

* Read before the Ontario Med. Association, June, 1892.

* Cyclopædia of Diseases of Children.—Keating.

it is more rapid, weak and feeble—a condition suggestive of asthma.

The pulse-respiration ratio is suggestive, not distinctive. In the lobar variety it is often 1-2.5 while in broncho-pneumonia it may by 1-2 or 1-1.5 and not very steadily maintained on account of paroxysms of dyspnœa which occur. Besides, in the latter, the respiration is frequently laborious, there is a sinking in with every respiration at the jugulum sterni and at the lower margin of the ribs, the so-called furrow of Trousseau (Forchbeimer).* In lobar pneumonia it is quieter and less difficult, though it may be equally as frequent.

Appearance.— In the lobar variety a well-marked flush on one or both cheeks is so commonly present and exceptional in other febrile conditions, except phthisis, that it is a valuable diagnostic sign (Latimer, Baltimore); in broncho-pneumonia the face is pale or livid or less cyanotic and the patient looks exhausted. This is partly from previous disease. Rapid movement of the alæ nasi is nearly always noticeable.

Behaviour of the child.—It is usually passive, and willing and anxious to lie quietly and more frequently on the affected side. There is an indisposition to cry or resist examining the chest. Pain is referred to the epigastrium or side when the child is old enough to locate it. Frequently the expiratory moan is present. In lobular pneumonia the child is more irritable. There is also also little or no expiratory moan if the pleura be not involved.

Part of lung involved.—The apex is far more liable to be involved in children than in adults. The right apex is more frequently affected than any other part, then the left apex, left base and right base (Holt).* In doubtful cases make a careful examination of the axilla. Always strip a child, and percuss gently in both axillæ. Many a time a slight dullness will be found here when no where else (Jacobi).*

Ausculation. In the early stage very little can be made out by ausculation. Râles are heard in both varieties. If dry râles are limited to one apex, we may reasonably look for the development of lobar pneumonia. Moist râles, ordinarily heard in broncho-pneumonia, may also be heard, at times, in the lobar form. The physical signs are usually of service in making a diagnosis, only when the disease has been in existence some time. Even then, they are frequently of very little use, unless one takes into consideration the early history, the appearance of the patient, the temperature, the respiration and the pulse.

Yet the physical signs of fairly well marked cases of the two varieties differ considerably. In lobar pneumonia evidences of consolidation are in the great majority of cases confined to one side, while in the lobular form, more or less evidence of consolidation, may be found on both sides. In addition, the upper lobes are much more frequently involved in the former than the latter. In the lobar variety it is often easy to map out a good-sized dull area early in the course of the disease, while in the other kind, at the same period of illness, percussion may elicit nothing definite. This may be because the consolidation is deep-seated or because the lobules involved are not sufficiently near each other to produce a mass of such size as to modify the percussion-sound. The dulness of the lobar kind often approaches flatness while it is seldom or never so marked in the lobular variety.

In percussing an infant's chest one should remember certain points:

In the first place, on the right side posteriously above the middle of the scapula, you will get, under normal circumstances, tympanitic resonance; this is true only in very young children. It is due to the fact that the right bronchos comes very near the surface. In the next place, do not percuss too hard. There is comparatively very little interstitial tissue in the lungs of an infant, and if you percuss too hard you obscure the normal tone and produce a cracked-pot sound. In the next place, if the child be crying very hard you cannot percuss for sound. You percuss for resistance. So far as percussion in infants is concerned, I usually percuss for resistance rather than sound. I simply percuss and feel. You can, with a little practice, feel where the resistance is increased and where it is diminished. I want to call your attention to a new method which has been introduced comparatively recently and promises good results. It has been found in experiments with the thermostat, that over parts that are influenced the surface temperature is higher than the surface

*International Clinics.
*N. Y. Medical Record, 1885.
*Trans. Am. Pediatoric Socy., 1891.

temperature over spots that are not, so that over a pneumonic spot the temperature will be higher than over a healthy part of lung. And it has been found that without these surface-thermometers the difference of temperature can be felt by hands that are sufficiently sensitive. The way this is done, is simply to dip your hands into warm water and then run over the surface of their chest and in so running over it you will recognize the difference of temperature wherever there is an increased amount of blood the temperature will be elevated. In the experiments I have made with it the results have been only moderately good, perhaps because my hands are not sufficiently sensative.

We have normally puerile respiration in a child and over the same spot mentioned above, namely, on the right side near the upper portion of the scapula, we have something approaching bronchial breathing in an infant. A diagnosis of pneumonia at this locality is often made in a perfectly healthy child. Listening over this region the vocal resonance will be increased; the vocal fremitus is also increased (Forcbheimer). "In the lobar variety we get bronchial respiration quite early and much more frequently than crepitation. Yet, in a large number of cases they do not have broncophony. That is what the crying of a baby is good for. A pneumonic child, that says nothing deprives us of this symptom, but when he opens his mouth and screams, the difference of voice on the right or left sides is diagnostic and has helped me in many cases where the diagnosis could not be made otherwise. At the edges of the consolidation fine râles are often made out. Vocal fremitus is also present, though not so easily made out as in the adult" (Jacobi).

In the lobular form well-worked bronchial breathing is rare over consolidated areas; in place of it the breath sounds are weak and blowing. In the early stage dry and moist râles, both small and large, may be heard on both sides but later in the disease persistent sub-crepitant râles may be heard in several spots. Vocal fremitus and vocal resonance are usually wanting but may be heard where there are aggregations of inflamed lobules, of course overcollapsed vesicles of any extent the inspiratory sound as well as vocal fremitus is not heard.

The termination in lobar pneumonia, in a large proportion of cases, is, as in the dult, comparatively sudden, that is, by crisis. Yet Jacobi says there is in lobar pneumonia lysis quite as often as there is a crisis. In that case the lysis is rapid as compared with broncho-pneumonia. Crisis in the cases which recover usually takes place about the fifth to the tenth day. [In broncho-pneumonia the duration of the disease is indefinite but nearly always longer than that of the lobar form. "Some cases will run their course in from twenty-four to thirty-six hours, in other cases it will take weeks to do so, the catarrhal process going from one place to another" (Forcbheimer).

The Diagnosis of Lobar Pneumonia from Bronchitis.

It is only in the very early stage that lobar pneumonia is liable te be mistaken for bronchitis. In comparatively mild cases there should be no difficulty in making a diagnosis. Pneumonia usually begins suddenly with headache, vomiting, epigastric pain, delirium or convulsions. One or more of the symptoms usher in almost every case. In addition, there is usually a flushed face, an anxious countenance, a dry tickling, hacking, painful cough, which is often incessant. Usually there is a temperature of 102° to 104° or 106° F.; respiration 40 to 60 or 70, but not labored, and pulse 120 to 140.

In bronchitis the patient does not appear to be so ill. There is an absence of the initial symptoms of pneumonia. The comparatively low temperature, the mild painless cough, the slightly accelerated respirations and pulse and absence of dyspnœa and also the expiratory moan are suggestive of bronchitis, a milder disease than pneumonia.

But in very sharp and severe attacks, especially those involving the smaller bronchial tubes,—not the very smallest—and accompanied by grave constitutional disturbances it is impossible to make a diagnosis between bronchitis and pneumonia, except by the aid of physical signs.

In pneumonia the first abnormal sounds will probably be, bronchial resonance, bronchial respiration, vocal fremitus and fine crepitous râles heard only on one side and of limited extent. Of course one may have double pneumonia and as a consequence sounds will be heard on either side.

In bronchits dry râles, large and small, are heard over both sides of the chest, particularly the posterior surfaces. Moist râles follow quickly,

or there may be a mixture of dry and moist ones, fine and coarse.

If the smaller râles are heard only on one side we may expect to find a pneumonia.

In a later stage of lobar pneumonia dilatation of the alæ vasi, bronchial resonance, bronchial breathing, dulness on percussion, and probably fine crepitation, enables us to make a diagnosis without difficulty.

Pneumonia ends suddenly in the cases which recover in from five to ten days, while bronchitis ends gradully in from two or three days to about as many months.

In pneumonia in a child old enough to cough up any mucus the pneumoccus is to be found, while it is not present in the expectoration of bronchitis.

THE DIAGNOSIS OF BRONCHO-PNEUMONIA OR LOBULAR PNEUMONIA FROM BRONCHITIS.

"The more careful microscopicel study made in the last ten years of the lesions in acute pulmonary diseases of young children, has placed it beyond dispute, that a very large number of cases classed formerly as "acute bronchitis," are really cases of broncho-pneumonia. This applied to nearly the whole group of cases formerly described under the heading of "capillary bronchitis." In infants, it seems almost impossible for an acute inflammation of the fine bronchi to occur, without the process extending to the alveoli which surround them, unless death takes place at a very early stage in the disease." (Holt).*

In the early stage of broncho-pneumonia or in the more advanced stage of comparatively mild cases it is frequently impossible to make a diagnosis. It is often necessary to wait a day or two before we can decide which disease we have to deal with.

"The main points of differentiation according to Earnest Holt in any case may be grouped under three heads: 1. The difference in temperature. 2. The severity of the general symptoms. 3. The The character of the physical signs.

As to temperature—Acute bronchitis commonly begins with a rise to 102° to 103° F., usually after twenty-four hours have passed it falls to 100°, and remains between this point and 101.5° for several days, gradually reaching normal. If a case begins with this temperature and the fever rises on three or four successive days to 102.5° or 103° it is almost certain that something more than bronchitis exists. We may be fairly sure of pneumonia. Yet a temperature below that mentioned does not exclude pneumonia.

The general symptoms—Cough, prostration, restlessness, dyspnoea, and cyanosis, are all, as a rule, less severe in bronchitis than in broncho-pneumonia. But it is the general severity of all rather than anything particular about each one, that is signtficant.

The physicial signs of local consolidated patches dullness, vocal resonance, bronchial breathing, etc.,—are evidences of pneumonia, when the symptoms are doubtful. Their absence must not exclude pneumonia even if they are never obtained. Scores of times have I found quite large patches of broncho-pneumonia at the autopsy when on the day previous the most careful examination had failed to disclose any bronchial respiration, bronchial voice, or dulness. The explanation was, that the pneumonic areas were so separated by healthy pulmonary tissue that at no point was there enough hepatization to produce any of the ordinary signs by which consolidation is recognized.

Then in regard to the character of the râles. That does not afford much assistance, for in broncho-pneumonia it is the bronchitis which produces most of the abnormal sounds. The localization of the râles is of more value. The signs of localized bronchitis of the finer tubes are very suggestive of pneumonia. Localized sub-crepitant râles over both lower lobes behind are especially suggestive of pneumonia."

From well-marked cases of broncho-pneumonia, or cases that have run on some time, the diagnosis of bronchitis is not usually difficult. In the former localized consolidated patches, and in the latter, the bilateral character of the signs, anteriorly as well as posteriorly, an absence of constitutional symptoms—prostration, cyanosis, dyspnoea, etc.—help to clear up the diagnosis. But quoting Holt, again, "this can only be done by considering both the symptoms and the physical signs, and of the two the symptoms are the more valuable. And if we regard every doubtful case as one of pneumonia we will make very few mistakes, for such the doubtful cases almost invariably turn out, at shall the autopsy, to be."

With repeated daily examinations of the chest (and they should be made daily) in obscure cases we should be able to make a diagnosis after the lapse of a few days at least.

HYDROPHOBIA.

BY J. S. LEONHARDT, M.D., LINCOLN, NEBRASKA.

The almost inevitable fatal termination of hydrophobia, and the fact that it adds a new and peculiar horror to the already gloomy enough deathbed scene, make it one of the most dreaded in the whole catalogue of diseases. Homer's allusion to the malign influence of the dog star, and the statement that Hector behaved like a raging dog in his final and great contest with Achilles, would seem to indicate, that even in that ancient day mad dogs and hydrophobia existed. Since then it has always obtained in the old world in certain localities, and occasionally in the form of widespread-epidemics. Until within the past two centuries it was unknown to the new world. History shows that its geographical distribution is co-extensive with the spread of civilization and the activity of foreign and domestic trade relations. I think it may be said, broadly speaking, that when hydrophobia occurs in the human subject it is the result of an infection received from the bite of some rabid animal, usually a flesh eater, such as the dog, wolf, jackal, fox, skunk, raccoon, etc. It has, however, followed bites inflicted by the ox, horse, goat, sheep, etc., and Van Swieten reports the case of an old woman who died with all the symptoms of rabies, after having been wounded by an irate cock.

The ratio of infection following rabific bites, is not a constant or regular one, but depends very much upon the depth and location of the wound; deep, lacerated wounds, and especially those inflicted on the face, hands, or other exposed parts being most virulent. After the reception of such a bite, a period of incubation ensues that varies from six to two hundred and forty days in dogs, twenty to thirty days in cattle, fifteen to ninety-two days in horses, twenty to seventy-two days in sheep, and from twenty to forty-nine days in swine. While this period is generally completed in the human subject from eighteen to sixty-four days, it occasionally happens that a single week is sufficient, and then again it may extend over several years, according to some observers.

If knowledge is to be of any service to mankind, that which pertains to rabies as it occurs in the domestic animals, should certainly be mastered by all who are liable to come in contact with these useful and ornamental creatures. The ability to recognize the initiatory symptoms of hydrophobia in the dog comes first in the order of importance. I am fully aware that if the following rules are rigidly obeyed some harmless cur may lose his worthless little life prematurely, but it were infinitely more humane that any number of $1,000 bull pups be sacrificed than that a single man, woman, or child should perish from rabies. For a dog to suddenly change his habits without good and sufficient reason is a conspicuous circumstance, and that without regard to the season of the year. For an active, spirited animal to suddenly grow lazy, or dull, or for one of the opposite kind to become restless and irritable, is also a suspicious state of affairs. For a house dog that has lived on the delicacies of the season prepared by a high priced cook, to suddenly acquire a taste for straw, thread, pins, old paper, etc., and appear to relish the same, is very ominous. Infected dogs seem to lose all regard for their masters, playmates, and friends, although now and then the contrary would appear to be true. For a well-mannered canine to evince great irritability of temper, flying viciously at other dogs without any provocation and attempting to bite them, is more than suspicious. A bright, frank, sociable dog, that seeks seclusion and darkness, that takes his punishment with great pain, but neither howls nor whines, is probably infected. A dog in the habit, suddenly acquired, of barking at nothing, sneaking around as if looking for something and unable to find it, that delights in gnawing wood and tearing clothes, and running away from home for a day or two at a time, shows important signs. A dog that paws his mouth as if trying to dislodge something, that rolls his blood-shot eyes, and leeringly turns his wrinkled head in the direction of some imaginary moving object at which he snaps savagely, stands self-convicted of rabies. The same may be said of one that gnaws, rubs and bites at an old wound long since healed, but now open, swollen, red, and tender. These form no part of the "paroxysms of wicked fury" that come on later in the disease. Then the eyes have a weird indescribable stare. He will rush headlong against anything that may stand between him and his liberty. Should he escape he is apt to make a long journey, biting at everything that disputes his right of way and

particularly creatures that excite him by any manner of noise or outcry. At last, nearly dead with fatigue, he returns to his home, fawning and crouching, but ready to bite, and that without any warning, any who may accidently insult his perverted feelings. I know of no other animal that is more dangerous to a family than a trusted and beloved watch dog that has just returned from a prolonged "spree."

Do not for a moment longer believe in the old notions that a mad dog fears water, shuns polished objects, froths at the mouth, and carries his tail drawn up between his hind legs. Your faithful old watch dog would swim a river if it lay in the path of his hydrophobic journey, lick any bright smooth object that would promise to cool his red hot tongue, carrying his tail erect during the whole paroxysm, and not froth at the mouth until paralysed in the last stages of the disease, when dogs no longer bite. It is also a very popular error to refer rabies to the extreme heat of summer. Statistics show that the coldest and hottest months of the year furnish the least number of cases, that in May and September rabids dogs are most common, while March and April seem to affect wolves the most. The folly of muzzling a dog in July and August and turning him lose the rest of the year is therefore apparent.

Rabid cats are more reserved and timid than dogs; while they may not be aggressive, they are more apt to attack the face, neck and hands with teeth and claws. They utter a hoarse cry like that emitted in the rutting season. They are less dangerous than larger animals because they are not as strong and die earlier. A rabid horse is very restless, sensitive and easily startled. There is lost of appetite, trembling, and rubbing of the upper lip; he neighs, bites and kicks viciously. In frenzy he will gnaw his fore limbs, and lacerate his flanks terribly. His blood-shot eye and crazy brain know no master. Rabid cattle are also subject to anorexia, grinding of the teeth, licking the scar left by the infected wound, everting the upper lip, pawing and scraping the ground. They butt and kick and bellow. Rabid sheep and goats act similarly, bleat hoarsely, nibble at the old wound, tremble, kick and butt. Rabid swine show much fear and excitability, hide under the litter, start violently at unexpected noises, grunt hoarsely, champ the jaws, evince a disposition to bite and tear at objects, their eyes are dark red, they gape and yawn much, and die in from three to four days. Wild beasts that are rabid lose their natural reserve, enter villages and cities, attack people on the street without fear or provocation. Skunks steal up in the dark, bite some exposed part and slink away. It is said that their odor is suppressed.

It is a significant fact, another of several everlasting monuments to modern methods of thought and research, that rabies, heretofore almost invariably fatal, has, within the last seven years, been rendered ever so much less deadly. This may be due to the strange notions of treatment formerly in vogue, and it may not be a waste of time to relate a few of them. The ancients believed in plunging hydrophobic patients into a river, pond, or other body of water, and submerging them therein until almost completely asphyxiated. Pliny trusted in the efficacy of river crabs reduced to ashes, or the ashes of the tail of a shrew-mouse provided the animal had survived the amputation and had been at liberty. Others had faith in a clod from a swallow's nest, applied with vinegar; the young of the swallow reduced to ashes; the skin or old slough of a serpent, that had been cast in the spring of the year, beaten up with a male crab in wine. Dioscorides had confindence in the "ashes of river crabs burned with a fire made of twigs of the white clematis, and mixed with powdered gentian." Gallen believed in the same, but held that in order to make it infallible it was neccessary to burn the crab on a copper plate, in the summer time, after the rising of the dog star, and with the sun in Leo. Aetius recommends the taking of oxalis, and the eating of a liver of the cormorant, the skin of the seal or hyena, or the flesh of the sea horse. Paul of Aegina, taught that the liver of a mad dog the blood of a partridge, mixed with garlic and onions, was much more efficacious. The Pauline doctrine has survived to the present day for our homœpathic friends give "hydrophobin," whatever that may be. An explanation of the *modus operandi* of these various procedures might be that they render the body too unpleasant for the disease to tarry longer therein, and maintain its pathological respectability. Dr. Percival of England first brought to notice the "serpent" stone of the Chinese, from which doubtless came the more modern notion of applying a "mad stone" in cases of bites inflicted by rabic or venomous

creatures. Dr. Dulles, of Philadelphia, has written of one Dr. Samuel Davis, of Petersburg, Va., who is said to have had one of these stones and applied it to his son who was bitten by a rabid-dog in 1801. He says that it remained on the wound, sucking out the poison, twelve hours at a time. When removed and placed in water, one could see the poison escaping from one corner of it in the form of numerous bubbles. The stone was wrapped in a piece of paper dated Charleston, S. C., 1740, and bore in print the following legend: Francis Torres, a native of France, is in possession of a chymical preparation called a "Chinese snake stone" which will extract the poison of the bite of snakes, spiders, and of a mad dog, and will cure cancers, and which are sold at half a guinea for the small and a guinea for the large ones." The owner of the stone in question, refused three hundred guineas for his—it must have been of great size and possessed of immense power! These mad stones are nothing but fossil coral of the genus *Favosites*, with one side cut smooth, the which is applied to the wound. The numerous pores draw in the blood by capillary attraction, and thus they adhere to wounds as long as they bleed, and quit sticking when the bleeding ceases. Statistics do not show that the death rate from rabies has been lowered since their introduction.

There remains another method of treatment to be considered, that discovered by M. Louis Pasteur of Paris, which acts both as a prophylactic and curative measure. Everybody has had an opportunity to read of it, for the press, secular, religious and indifferent has teemed with articles on the subject pro and con, serious and careless, good, badand medium.

The method consists, briefly speaking, in inoculating patients suspected of infection or normal, in a certain regular and prescribed order, with a solution made from the spinal cord of a rabbit that had been inoculated from a dog suffering from "street rabies." The effect on the statistical death rate following bites proven to have been rabific, has been simply phenomenal. But like all great discoveries, that of Pasteur met with the most stormy opposition very soon after he had given to the world his remarkable find. His first inoculation on the human was performed July 6th, 1885. The patient was an Alsatian youth, aged nine years, who had been bitten by a rabid dog about three weeks before. He was bitten in fourteen different places on the nates, legs, hands, etc., and symptoms of the dread disease had already manifested themselves when he was brought to M. Pasteur. It is a matter of history now, that the boy recovered and has since remained well. In less than a year from that date a committee was appointed consisting of M.M. Chantemesse and Charin to analyse the 1,333 cases of persons that had submitted to inoculation by the Pasteur method. These cases were divided into three classes: first, persons bitten by dogs, who, upon examinations by veterinarians were pronounced rabid; second: persons bitten by dogs that had communicated rabies to other dogs; third: persons bitten by dogs of whom nothing was known. Of ninety-six patients belonging to the first class one died—a mortality of 1.04 per cent.; of six hundred and forty-four patients of the second class, three died—a mortality of .46 per cent.; of the remaining patients, none died. These statistics compared with those of M. Lebanc on "Hydrophobia in the Department of the Seine," gives a mortality rate of 7.5 per thousand instead of 160 per thousand. As to the forty persons bitten by rabid wolves, they cited seven deaths or at the rate of 140 per thousand, as against the heretofore regular death rate form such bites of 8.20 per thousand. The difference between the two results is more than great and startling. In following up their investigations, MM. Chantemesse and Charin have established special statistics of results of bites on uncovered parts such as face and hands. Of fifty-four persons bitten in the face and hands, by dogs known experimentally to have been mad, there was one death, or eighteen per thousand. Of four hundred persons bitten in the face and hands by dogs known clinically to have been mad, there were three deaths, or a mortality of 7.5 per thousand. In referring to the documents of the Council of Hygiene from 1862 to 1872 it was found that for bites of the face there was a death rate of 8.80 per thousand and for those of the hands of 6.72 per thousand.

The comparative prophylactic power of the three great inoculations against disease—variola, anthrax and rabies—can now be plainly shown. Before vaccination was practised, the death rate from variola was five hundred per thousand, it is now twenty-three; before veterinarians inoculated

against charbon, the death rate was about one hundred and thirty per thousand, it is now five; the mortality from rabbies before anti-rabic inoculation was known was one hundred and sixty per thousand, it is now seven. It is not necessary to say that this report astonished the whole world.

The British Government then appointed a commission consisting of Sir James Paget, Sir Joseph Lister, Sir Henry Roscoe, M.P., Dr. Richard Quain, Dr. Lauder Brunton, Professor Burdon Sanderson, Dr. George Fleming, Veterinary Surgeon of the British Army, and Mr. Victor Horsley, Professor Superintendent of the Brown Institution, to investigate the claims and methods of the newly-risen French biologist. In the report of that scientific body, whose superior ability none can question, submitted June 27th, 1886, we read, "that of two hundred and thirty-three persons bitten by animals in which rabies was proved, only four died. Without inoculation, at least forty would have died. Among one hundred and eighty-six bitten on the head or face by animals in which rabies was proved, only nine died, while the regular rate would have been at least forty. Of forty-eight bitten by rabid wolves, only nine died, instead of an expected thirty. It may hence be deemed certain that M. Pasteur has discovered a method of protection from rabies comparable with that which vaccination affords against smallpox. It would be difficult to over-estimate the importance of the discovery." The London *Lancet* of July 2nd, 1886, says of this report: "Their verdict is the most important yet pronounced upon the subject, and must go far to decide the question of the prophylactic value of the inoculations of Pasteur. The conclusion that the method has saved a considerable number of lives, and that it is at present, and probably will be for a long time, the only method of saving from death those who have been bitten by a rabid dog, affords strong support to Pasteur's conclusions, and, we need hardly say, must have important practical results." Says Dr. A. N. Blodgett, of Boston: "The general opinion is that inoculation in the way advocated by Pasteur, is not only an absolute protection to the patient against the outbreak of the rabid disease, but that it is itself entirely free from serious effects upon the inoculated person." Says Dr. D. T. Himes, of London: "The success of Pasteur's treatment has been brilliantly demonstrated by statistics as well as by experiments. Pasteur has established a prophylactic treatment against rabies, one of the most formidable, and hitherto intractable, of diseases. He has thus crowned a glorious career of research directed to the benefit of man by a most notable discovery, primarily salutary to man himself."

The Academy of Medicine of Rome has sent delegates to study the Pasteur method of anti rabic inoculation, the German Government sent Koch and Virchow; the Bacteriological Laboratory of Harvard University has confirmed the claims of the great chemist; and it would seem that the report of the English commission must silence all objectors.

Selected Articles.

A CASE OF LETHARGY.

BY C. K. CLARKE, M. D.,

Superintendent of the Kingston Asylum, Kingston, Ontario.

The records regarding cases of lethargy are very incomplete and it is seldom indeed that one has the chance to study a typical case. Literature on the subject is scant, and it is my belief that we have much to learn regarding the actual condition of the nervous system in lethargy. The eminent physiologist, Professor T. Wesley Mills, has suggested to me that in certain cases we have a condition analogous to that of hibernation in animals; and truly at least one case in Canada, where the patient is awake all summer and asleep all winter, would give color to this belief. There are other striking points of analogy between animals during the period of hibernation, and some human beings in a state of lethargy. This subject is enticing from the standpoint of the evolutionist, and might profitably be discussed, but just now the time alloted for this paper will be taken up in describing a remarkable case of lethargy that came under my observation last year. This case is almost unique, and by a combination of happy chances it was possible to obtain accurate and minute details regarding the patient, and put on record observations that were divested of the element of the wonderful so generally supplied by the non-scientific observer. Several seasons ago I heard that there was a patient who had been in a trance for years, and from time to time word was brought to the effect that the condition still persisted, and all efforts to rouse the woman were without result. A little more than a year ago I obtained permission to visit the patient, but was not allowed to make

any extended examination. On entering the room I found a thin, old woman in bed, apparently fast asleep. Her respirations were irregular and varied much during the visit (almost half an hour), running all the way from 24 to 44 per minute. The pulse quickened in a marked way during my stay, and ran up from about 80 to 120. The woman had her eyes half closed, and to all appearances was oblivious to everything that was going on. The nurse gave many details regarding the patient and made a number of statements, some of which I shall repeat in a few minutes. Many of these statements we were able to verify at a subsequent period; others were undoubtedly inaccurate.

Before going into details regarding the every day life of this case of lethargy, as we saw it, perhaps it would be well to give a brief outline of the history of the patient. Unfortunately it has not been found possible to get as many important facts as could be desired in connection with this history, but great care has been taken to eliminate all doubtful points. The patient was born in 1820 or 1821, and when she came under observation was almost sixty-nine years of age. The neurotic history was pronounced on "both sides of the house;" evidence going to show that her father had suffered from melancholia. A reliable person states that the father died from "softening of the brain"—possibly general paresis. The patient's mother was subject (a member of the family states) to attacks of partial loss of reason, which could only be cured by change of air and surroundings.

Unfortunately it has not been possible to get an accurate account of these attacks of "partial loss of reason." The patient's early history is not well known, but it has been stated on good authority that she was "peculiar," and in childhood complained of some head trouble that caused her to keep her hair cropped short. She was married when very young, probably when seventeen or eighteen years of age, as she was but twenty-one when her third child was born. Three years after the birth of her last child she was noticed to undergo a change in disposition and acted "strangely." She could not be depended on, was untruthful and whimsical, and worried a great deal about trifles. It is from a subsequent date (three years later) that the history of this case must be dated.

The son (the youngest child) says: "The first recollection that I have of mother's sickness was when I was six years old. My little sister had died and I was just recovering from an attack of scarlet fever when she was taken down. I think the attack was caused by grief over sister's death, and over-exertion and want of rest. I do not remember how long she was sick at that time, but I recollect that her left side was completely paralyzed and that after a time a strong liniment was used, which partially removed the paralysis, and when she went to the country for several weeks she came back well.

"The second time that she was taken sick was when I was twelve years old. She felt poorly for some time and was then taken with fits, or convulsions, which lasted for, I think, three days, having sometimes four or five in an hour. She was confined to her bed for, I think, about two years, in very much the same condition as at present. I do not know what curative means were employed, but she gradually improved a little, and was again sent out into the country, where she seemed to recover. She enjoyed pretty good health for about six years, but had to be very careful; she never drank tea or coffee and always had to have the hair on the back of her head cut short. About this time her father was taken sick and we moved into his house to take care of him. This seemed to affect mother, and after a short time she was again taken with fits and soon went into her former condition. During this sickness, which lasted about two years, she used to sit up part of the time and appeared to be perfectly conscious. She knew father and those who waited on her, used to call me her boy, but appeared to be in a sort of a stupor most of the time. She was again sent into the country and came back well. Then ensued a brief interval of about two years, during which time she was in fair health, but was again taken down as before and was sick for nearly seven years. During part of this time she was very low, and we watched day after day at her bedside expecting each day would be the last; but she again rallied and gradually her bodily strength and reason returned to her. She was well for about five years, when she seemed to be taken with a low fever and gradually went down to her present condition."

Such is the son's account of the case, and from it we learn that the history of nervous trouble dates back at least forty years, and the inference is that the first indications of lethargy then made their appearance.

The details of the conditions that existed during the different attacks are almost entirely wanting, and it is unfortunate that we are left almost completely in the dark regarding the nature of the convulsive seizures that occurred. Subsequent history would lead us to believe that these were in all probability hystero-epileptic in origin.

About the year 1862 the patient fell into a state of lethargy that lasted for seven years or more. The condition was not one of complete unconsciousness, and although the woman appeared to sleep almost continually, occasionally she would wake up for a minute or so at a time and converse in a rational manner. It is not possible to make more than general statements in regard to these attacks, but it is beyond doubt that the conditions were not identical with those that characterized the last attack. Evidently the condition of lethargy was not so profound. The announcement of the death of a warm friend was the immediate cause of her

awakening. The return to even an approach to a normal condition of health was a very gradual process. She was lachrymose and childish for some time, and could not use her limbs properly for months; in fact, had to learn to walk again.

During the period of wakefulness that now ensued—seven years or more—the patient, to a certain extent, interested herself in the affairs of every day life. She went about the house, etc., but was very quiet and did not seem able to concentrate her mind on anything. Her memory was markedly deficient, and she seemed astonished to find people and places changed, and could not realize the fact that she had been asleep for such a long time. When waking up from her long sleep one of the first requests made was for beer; and strange to say the same want was expressed many years after when arousing up from a subsequent attack.

About thirteen years ago the patient gradually passed into the condition in which we saw her. At first she spoke occasionally but in a childish manner, and often made a request for meat and potatoes, invariably using the following words: "Meat and potatoes, a plate all full up to the top."

Before giving the details of the case as we saw it, it will be well to repeat in a general way the statements made by the nurses who had the care of the patient before she came to the Asylum. They say: "She seems to exercise a certain amount of discrimination regarding her food, and will eat enormously or not at all, and when her appetite is not lost does not seem to know when she had had enough. Her diet is made up of minced meat, potatoes, soft toast, milk, etc., and she is particularly fond of meat and potatoes, in fact will not touch anything until meat and potatoes are provided. She does not like sweet things. When not suffering from diarrhœa eats three times a day. Eats as much as any healthy, active woman of her age. Objects to nauseous drugs, and endeavors to push the spoon away with her left hand.

"The attitude during the day is quite different from that assumed at night, and the patient undoubtedly sleeps more soundly at night than during the day. In the day time her legs are extended; at night drawn up. In the day time she is put either on her back or right side, at night on her left side, and remains in this position until morning without moving—in fact, cannot roll over. Will not settle down for the night until a drink of cold water is given. In the day time, sometimes for an hour or so at a time, appears to be nearer a condition of consciousness than at any other time. This occurs generally after breakfast, but she has to be roused for all of her meals.

"When heavy bed clothing is put on the bed attempts to shove the blankets off with her left hand, and likes to be very lightly covered. The eyes are three parts closed during the day and completely closed at night. The face sometimes becomes flushed. She never speaks, and in fact has spoken but once in eleven years or more, and that was quite recently (1890), when she said 'I am not asleep.' Her appetite has been better since she had been in the long sleep than it was before, and she eats things she would not touch when awake. At least once during the present attack she has, unassisted, got out of bed, and there is reason to believe she has done the same thing several times, but not within three years, as her physical condition renders it impossible. Several times the nurse fancied the patient was moving about the room at night, but for sometime could not actually prove that such was the case. At last, however, a fall was heard in the middle of the night, and the patient was found lying fast asleep at the bottom of the stairs, down which she had fallen.

"During the present attack she has fasted on several occasions, and once went fifteen days without food." It must be remembered that the nurses were speaking of the last attack and at a time when the patient had been in a state of lethargy for more than eleven years. In September, 1890, Professor T. Wesley Mills and I saw the patient. This was my second visit. We found the patient, an old woman, in bed. She was lying on her back with her eyes half closed. Her face when we first entered was somewhat flushed and respiration rapid.

On October 9th, 1890, the patient came under my care, and it was possible to make a series of observations of the most complete character. In this paper I shall merely indicate in a general way the conditions that were found to exist, but I hope to be able to publish more elaborate details before long.

The patient, a thin old woman, apparently not weighing more than sixty pounds, was carried into the infirmary from the ambulance, and placed in bed. She was asleep and did not seem disturbed by the jolting to which she had been subjected. Her temperature was 97⅕°, pulse 107, and respirations 20. Efforts were made to arouse her, but without avail. Friends stated that she had been in her present state of lethargy for more than eleven years. Her eyes were half closed, and it was found almost impossible to get her to swallow anything. Next morning her temperature was about normal; pulse 117, respiration 18; still asleep with the eyes half closed, as she remained nearly the whole time she lived. She was under observation from October, 1890, till February, 1891, when she died. In these four months she was closely watched, and until the last week of her life gave little indication that she had the slightest knowledge of the fact that she lived. She would remain in any position in which she was placed in

bed, and if not fed, would undoubtedly have died without making any sign that she required or desired food. Her temperature was almost invariably subnormal, sometimes falling to 95°, although occasionally it would rise to nearly 102°, without any cause that could be determined. Her appetite was capricious, although she undoubtedly had decided likes and dislikes in regard to food. She preferred beef and potatoes to anything else. The process of eating was very slow, and sometimes it would be more than an hour before she could finish a meal. When she drank anything, milk was evidently preferred. She was very clean in her personal habits, and never soiled the bed.

The quantity of urine passed was very small, not averaging more than one-seventh of normal. The bowels moved but seldom, sometimes only once in six or seven days. It was possible to rouse her for a moment or so, to the extent of making her open her eyes, but beyond this she would give no indication of consciousness, and went to sleep again immediately. Her legs were nearly always drawn up, although when the patient was admitted it was stated that she always straightened her legs at night. Her feet were almost invariably very cold, and the hands sometimes so. Occasionally her eyelids would tremble and quiver, just as they would in a patient suffering from hysteria. Generally when much bothered, would for a few moments make a sort of whining protest. The facial expression was quiet, almost deathlike, under ordinary circumstances, but sometimes when undergoing examination, an expression suggestive of pain would appear; at the same time it is questionable if pain was really experienced, as the heart and respirations did not show the least disturbance.

A large amount of food for one so frail was consumed in a day, although on some occasions the appetite was completely lost. Sometimes when suddenly disturbed would start nervously, and her hands would tremble. Trained Nurse Osborne, who was with her very constantly, seemed to think that there were times when she was nearer a condition of consciousness than at others, and as this statement was also made by her former nurses, possibly it is correct. Occasionally she would push down the bed clothes with her hands, and the history of the case would go to show that heavy covering was always objected to. Nearly every day she was propped up in a chair for half an hour. This did not seem to have any effect on her state.

I shall now detail several examinations made by Dr. Webster and myself. These will convey a general idea of the general conditions:

January 16th, 1891—Apparently asleep; cheeks, nose and chin much flushed; lying on left side; thighs and legs slightly flexed; skin moist; face and body hot; hands warm, feet and lower half of legs chilly, thighs and upper half of legs warm. When placed on back, offered resistance; showed her annoyance by drawing down corner of mouth, and appearing to cry; eyes opened and she blinked a good deal; lips and jaw moved as if speaking; nothing audible; in a few seconds relapsed into her former state, gradually turning her face over to the left. Left hand spread out over chest, palm down and fingers spread out; fingers could not be retained in any other position except by force, and were quite rigid. When arm was placed in another position, not immediately returned, but was after a time, especially if the patient was disturbed. Right arm by side, hand partly closed; this seemed the favorite position, for when moved was after a time returned; when the hand was forcibly opened, not immediately closed again. Pulse 104; fairly good. Five minutes later 90. Ten minutes later 100. Pulse quicked when patient was disturbed, but the quickening was very slight.

Respirations 24, regular and deep; abdominal in character. Temperature in mouth, 98.3 (5 minutes.) Temperature, axilla, 98.2 (10 minutes.) Reflexes—Cornea good; merely tickling the face seemed to cause no annoyance. Epigrastic reflex very slightly marked, much less than it was when we examined the patient a few days ago. Patellar reflex entirely absent. Plantar reflex present to at slight extent, but not marked as it was before. Some œdema at ankles.

January 30th, 1891—In company with Dr. Webster examined the patient this afternoon. When we entered the room, it was observed that E. B.'s face, nose and chin were much flushed. The nurse informed us that this flushing is frequently much more marked than it was this afternoon. Respirations taken before the patient was disturbed were 28, very irregular. Pulse taken before the patient was disturbed 95, irregular. When I describe it as irregular, I may state that this description was based on the fact that in one half minute we would get 45 beats and in the next half minute 50, and so on. As usual whenever the patient has been visited by us, the right hand was tightly closed, the left spread out. Feeling that there might be an element of doubt in regard to the temperature tracings furnished by the nurse, a tested thermometer was taken for the examination, and for the sake of comparison. The result showed that the readings furnished by the nurse are to be depended on, as several comparisons of thermometers showed but one trifling fractional variation. Temperature—Left axilla (5 minutes), 1st thermometer 98; 2d thermometer 98. Right axilla, 1st thermometer $98\frac{1}{5}$; 2d thermometer $98\frac{1}{5}$.

Eyelids and lips were twitching, and lids and tongue trembling. Reflexes—those of the face and eye normal, abdominal skin reflexes present, but not good; plantar reflexes not well marked,

although undoubtedly present; patellar reflex, left side absent, and probably absent on right side, although at one time we thought a trace was to be found. Tickling the feet did not, as on former occasions, seem to deepen the respiration, and during the whole of the examination the respirations were shallow, and of an abdominal character. Hands fairly warm, feet chilly, but not so cold as usual. Circulation in other parts of the body excellent. Feet œdematous. Respirations after examination 25, somewhat irregular. Pulse after examination 97, quite changed in character. When we first entered the room it was full and of good quality, now it was weak and thready in character.

Early in February, 1891, a marked change took place in the patient's condition. Diarrhœa developed, and the woman was evidently suffering pain. On the 4th of February was undoubtedly awake, and in the evening spoke in a hoarse whisper asking for a sour drink. This was the second time she had spoken in thirteen years. On the morning of the 5th of February again asked for a drink, yawned twice and fell asleep again. In the afternoon was again awake, fed herself in an awkward way, and in the evening spoke again in a natural manner. I sent for her friends and they endeavored to get her to take notice of them, but she did not appear to know them, and went to sleep as usual. The trained nurse's notes for the next few days are as follows:

"February 6th—Will feed herself with bread or anything dry. Hand shakes too much to use a cup or spoon. Will ask for anything she wants, but will not speak at any other time. Always uses her left hand.

"February 7th—I was called in about 4 a.m., and found her lying on the floor; she would not speak, but from all appearance no one had touched her; she had evidently gotten out of bed herself."

On the 16th she was slightly better and asked for beer and cocoa, and said she felt as if she were burning up. From this time she steadily grew worse and died on the 26th.

I might here state that Dr. Ruttan, of McGill University, made elaborate analysis of urine sent to Montreal from time to time, and without making any detailed statement here I may say that the general conclusions arrived at were as follows: The whole of the urine passed in six days was sent, and he says the total amount, if representing six days urine, is about one-seventh the normal. This contains all constituents in about normal quantities in relation to the volume of the urine, except the phosphoric acid, which is about one-third what it should be.

AUTOPSY.—Nutrition poor; body much emaciated; apparent age, 65 to 70; weight, about 50 lbs.; rigor mortis complete. A.M. staining on hands and feet; P.M., staining on back of trunk; bed-sores on sacrum, tip and ball of great toe; feet and ankles œdematous; legs flexed on thighs by contracted tendons; no teeth, and jaws much absorbed.

HEAD.—Scalp thin and easily dissected; calvarium of average thickness; tables thin however, diploe being in excess; Dura Mater not adherent to the skull, slightly opaque at vertex; one slight adhesion to brain at margin of longitudinal fissure; ante-mortem clots in longitudinal and lateral sinuses, the clots in the lateral sinuses being particularly well organized.

BRAIN.—The brain weighed about 35 oz.; microscopically, it was healthy in appearance; in fact in asylum experience I have never seen as healthy a brain in the post-mortem room.

Convolutions well marked and sulci deep; grey matter abundant; brain substance firm; ventricles free from evidence of disease; brain not examined microscopically.

THORAX.—Sub sternal adhesions—Emphysema of cellular tissue beneath sternum; cartilages not ossified.

HEART.—Small; weight, 3¾ oz. Pericardial fluid, average quantity; blood in great veins, and right auricle fluid; walls of right auricle and ventricle unusually thin; valves normal; small post-mortem clot in left verticle; walls of left ventricle hypertrophied; left auricle normal; valves of left side normal.

AORTA.—Ascending aorta dilated into a fusiform aneurism; capacity about twice that of normal; arterial coats not thinner than normal; no evidence of atheroma; no pressure effects noticed; varicose veins on posterior walls of the heart; abdominal aorta atheromatous; ante-mortem clots in abundance.

LUNGS.—Right: Very adherent at apex; small adhesions all over surface of lung; apex, a mass of tubercle; in fact, tubercles were found scattered throughout the whole lungs, and in the apex a small cavity existed; hypostatic congestion marked. Left: In this lung a certain amount of hypostatic congestion was apparent, and an occasional tubercle was found; otherwise the lung was normal; cord-like adhesions of pleura on surface.

ABDOMEN.—Liver adherent to chest walls and diaphragm; whole capsule tore off in taking out, and remained attached to diaphragm, and abdominal wall; weight, 20 oz.; three vertical furrows present on anterior surface of right lobe; these furrows were about two inches in length; centre one distinctly marked; nutmeg condition present.

STOMACH.—Large; about two inches from pyloric orifice was a constricted portion. This condition was undoubtedly not the result of any inflammatory action, but the natural shape of the

stomach, giving rise to an appearance suggestive of a rudimentary second stomach.

INTESTINES.—Small; evidences of an old peritonitis; adhesions everywhere; there were several constricted portions from three to six inches long; in no place was there complete stricture, and no scars were present Above the constricted portions the intestine was much distended.

CAECUM.—Walls much thickened and much venous congestion; inner surface dark red, and roughened; had appearance of numerous varicose veins in wall.

ASCENDING COLON.—One portion constricted, and part preceding dilated; transverse colon, normal; descending, slightly dilated.

KIDNEYS.—Right: Very small, about 2¼ inches long; apparently normal. Left: about an inch longer than right; apparently normal; capsules non-adherent.

CASE II.—In a recent issue of the *Journal of Insanity*, I published an account of a Case of Lethargy. Dr. Wesley Mills, of McGill University, has placed at my disposal notes by Dr. Robinson, of Annapolis, on a patient who hibernates in an extraordinary manner. Many points of similarity between my Case of Lethargy and this man are to be found, such as neurotic family history, sub-normal temperature, etc. It is a pity that more extended notes are not to be had, as the case is unique.

Notes by Augustus Robinson, of Annapolis, N. S., on a remarkable Case of Lethargy.

John T., son of a pensioner, is now about sixty-two years old. When he was twenty-eight years of age his father committed suicide by cutting his throat in a fit of insanity. Before his father's death, John had shown symptoms of melancholia. He would sit by the hour over his father's bench (cobbler's), laughing and talking to himself, and working himself into a frenzy, fighting imaginary foes, and going into immoderate fits of laughter.

I cannot ascertain, after much enquiry, how long this condition of things lasted before he lapsed into his present state; but this much is certain, for the last thirty years or more, about the end of September every year he falls into a deep sleep or stupor, and, as his present condition is a fair sample of the manner in which his winters have been passed since he was first attacked, I will describe him as I found him on Monday, December 10th, 1888, and repeat what I was told by his friends regarding his attack this autumn:

About August 31st, Jack went to bed after eating his evening meal as usual, without exhibiting anything out of the common in his manner or otherwise, or giving any reason for the supposition that he was out of sorts in any way. On the following morning he did not get up, nor has he shown any more vitality than any sleeping man up to this time. His sleep is very quiet without any stertor, indeed it is as calm as that of a child. Twice in every twenty four hours he is taken up, a person supporting him on each side, holding a vessel for his convenience. He knows enough to voluntarily emtpy his bladder. The urine is high in color and scant in quantity. About eleven o'clock every night he seems to show rather more life than at any other time, and advantage is taken of this to pour a little thin oatmeal gruel, beef-tea or soup down his throat, he opening his lips to allow them to do so, and slowly swallowing it. He only takes a very little each time, and, if urged to take more, simply keeps his mouth shut. About once in every thirty days, not exactly at regular intervals, during the evening generally, the family will hear a peculiar chattering noise. They never take any notice of it, for they know it is Jack going down to the out-house to empty his bowels. He then returns to his bed and sleeps. He knows enough to throw a quilt over his shoulders at such times.

At the time of my visit I found his temperature 96° F. pulse 60, regular, though not strong; respirations 14, easy and quiet, skin cool. A pin stuck into his arm caused no apparent change, and he might be pinched until black and blue without its causing him the slightest uneasiness.

My first visit to Jack was about twenty years ago, when I first came to live and practice in this vicinity, and it came about in this way. Of course there was a talk about the new doctor and what he could do, so I was called to see this queer case. I got all the particulars from the friends and neighbors, and what means had been tried by other doctors, and then I promised to try what I could do. On the following day I went again, accompanied by my brother, also a physician. We took with us a good galvanic battery. One of the handles was placed in each hand and bound closely to the fingers with wet bandages. We then put on the full power of the instrument. Poor old Jack was out of bed in an instant, and I shall never forget his look of astonishment and horror as he yelled out "Damnation, what's that?" I can also well remember my own feelings of satisfaction and complacency when the natives contratulated me on my success in this, my first case. I walked off as if saying to myself, "I knew I could do it." Well, Jack remained awake about three days, and then I got a message that my patient was off again. I went up and tried the battery a second time, with only the effect, however, of making him open his eyes and grunt out "Eh," in a querulous manner, and, after looking about him for a half-hour or so, he lapsed into his former condition. Next day I again tried the battery, but without the slightest effect, so I gave it up as a hard case.

This is all I have to say about this singular object, except that, of course, he becomes very

thin and haggard before he rouses finally in the spring, and he does not fairly waken until the end of May or first of June. During the summer months Jack does exactly the work he is told to do, but he must be told over again every day; for example, if desired to bring the cows from pasture, he will do so, but will not milk them until told to, nor will he turn them afield again without being desired. He does not seem to know what to do next, even though the same routine is carried out every day. An exception, however, must be made in one respect. He does not require to be told when dinner or tea-time arrives, and is blessed with an excellent appetite. Jack is always ready for his hash, and is not particular about quality, so that quantity is there. He will talk quite rationally on any subject when spoken to, and recollects distinctly most of the incidents of his childhood. He will hold animated confab with the cows, dogs, trees, wheel-barrow, or any other object which happens to be in his way, and may be noticed sometimes lecturing a tree for some time, breaking out occasionally into uproarious fits of laughter.

INVOLUTION FORM OF THE TUBERCLE BACILLUS AND THE EFFECT OF SUBCUTANEOUS INJECTIONS OF ORGANIC SUBSTANCES ON INFLAMMATIONS.

Prof. Robert Koch announced in 1882 the discovery of the cause of Tuberculosis. He claimed that consumption was produced by a *peculiar bacillus of a special shape*. This he described as a rod-shaped micro-organism with rounded ends, either straight or curved, and frequently beaded. This simple form was accepted as a constant character until the summer of 1889, when I first observed, in an artificial culture on an Agar glycerin nidus, a slight inclination to bud in one or more places along the rod, without the production of any particular angle, some relations forming an acute while others formed a right or possibly an obtuse angle. A single bud could only be recognized with a high power objective focussed and illuminated with particular nicety. The indications, however, were so often repeated in each field as the slide was moved upon the stage of the microscope that I was sufficiently convinced of the presence of branches to review the life-history of the tube in which they were found and to speculate upon the factors likely to have brought about the evident evolution. The result was the production of germs with decided *branches*, some of which were quite as long as the parent rods or stems. This result was published in the *Medical News* of October 19th, 1889. In 1891, Prof. Allen J. Smith observed branched forms of tubercle bacilli in human sputum. Since then Prof. Klein, Herren Fischel, Mafucci, et al., have described the branching of this germ. In the summer of 1892 I observed the bacillus in this cycle of life in the liver of the Green Jay, of Mexico, *Xanthoura luxosa*. This discovery, coupled with my observations of 1889, and corroborated by the statements of other scientists, must now compel the bacteriological world to recognize a more complex form of the tubercle bacillus than that observed by the great German bacteriologist in 1882. Since the discovery of the branched form of the tubercle germs in 1889, I have been able to continuously reproduce them on artificial mediums. While the young germs seem to be quite simple in form, appearing in straight rods and rods bent upon themselves, those which have arrived at the age of four weeks, particularly in the presence of an excess of glycerin and in a temperature of 40° C., become branched. The young bacilli, when introduced into the animal tissues, produce tuberculosis, while the older cultures gradully lose their virulence, in all probability owing to their inability to reproduce themselves. This fact indicates that the branched form represents an involution life-cycle of the germ. Notwithstanding the fact, however, that the devitalized, dying or dead bacilli cannot produce consumption, they, with their products, effect a decided increase in tubercular inflammation, which inflammatory process even results in necrosis of the tissues. These phenomena led to investigations proving the correctness of the hypothesis first published in my monograph on Immunity (*Medical News* of October 19, 1889) to wit: "It is possible that, by a thorough filtering out of bacilli from tuberculous material, a filtrate might be obtained and attenuated so that by systematic inoculations a change might be produced on living tissues that would enable them to resist virulent tubercle bacilli. In this line of experimentation I proved that the presence of the germs was not necessary to produce the hyper-inflammatory condition of the tuberculous tissue but that it was a *product* of the bacillus that caused the reaction upon the tuberculous animals tissues. This, since called *Tuberculin* and introduced into the human economy for the purpose of curing tuberculosis when introduced into animal suffering with artificially produced tuberculosis, often destroyed the condition called consumption and in many cases appeared to produce immunity to the poison of tuberculosis." The process, however, was not quite so successful in animals which had contracted tuberculosis through one of the natural channels. In these cases tissues surrounding that which was recognized as tuberculous afterward became infected with consumption. While this was and still is discouraging we had good reason to believe that *Tuberculin* will be permanently established as a remedy for this pathological con-

dition. The toxic albumose causing inflammation of tissues markedly tuberculous, coupled with the fact that it is found in such tissues, led me to inquire whether or not some other constituents of animal tissues, pathological or normal, would produce reaction if introduced in excess into the general circulation. This line of experimentation was begun by first using an albumose of the goat, a comparatively immune animal. This material, however, if at all active as a remedial agent in tuberculosis, is so slow in its effects that I have heretofore failed to produce any marked changes. When, however, in the course of my investigations I overloaded the animal system with some of its waste products, Dr. William L. Zuill, M.D, D. F. S., who has kindly carried on the clinical work on animals for our Bacteriological Laboratory, reported in the *Times and Register* of September 26th, 1891, a reaction by the Amidé group on inflammatory tissues, the animals experimented on being tuberculous. As this group included that which we believe to produce the inflammation of gout, I was led to review my experience with tuberculosis in relation to lithemia. Studying this field with the lithemic and tuberculous habits in view I was soon impressed with the fact that when these diseased conditions were present at the same time in any individual we could claim it to be an exception to the rule.

To determine the special action of the Amidé group upon inflamed tissues when introduced into the circulation, a case of lupus vulgaris was selected and first treated by the subcutaneous introduction of .03240 gm. of kreatinin, alternated twice weekly with .130 gm. of taurin, urea and uric acid. The average temperature during treatment was slightly raised, though not to any marked degree, under the influence of such small doses. The more recent patches of lupus, however became markedly inflamed, being accompanied with a burning sensation. On the third day after the first injection, a marked granulation could be detected around the outer edge by the aid of a strong amplifying pocket glass. This apparently healthy granulation has continued for ten days, in which time the patch has one half of its original area healed. The result shown at this early stage of the experiment is sufficiently encouraging to warrant not only a continuation of the treatment in this case but in other forms of tuberculosis. The only other subjects upon which these injections have been tried have been cases of pulmonary tuberculosis in a very advanced stage, where there was too much lung-tissue already destroyed to warrant the expectation of a favorable result. The fact that we apparently have an action on the lupus and no marked result with *small* doses on advanced cases of pulmonary tuberculosis causes me to realize that the line of experimentation must not be confined to tuberculous inflammation but extended to the action of these organic substances on the entire group of inflammatory growths the effect being produced, possibly, by supplying that in which the pathological tissues are deficient. This line of inquiry, which had its origin in the Bacteriological Laboratory of the Academy, has opened up a new and wide field of important scientific medical investigation. The main object of this communication, at this time, is to conform the original discovery of the *branched form* of the tubercle bacillus by recording the observations of the life-cycle of that micro-organism found in animal tissues. I have, however, ventured to advance theories and results regarding the action of substances far removed from the bacillus, because they were suggested during my studies of the branched form of that organism.—Samuel G. Dixon, M.D., Philadelphia.

TUMOR OF THE LIVER IN WHICH REMOVAL WAS ATTEMPTED.

M. F., aged sixty years, was admitted to the Woman's Hospital May 24, 1892, with the following history :

From girlhood she had enjoyed almost uninterrupted health until a comparatively recent time, when she suffered a great deal with indigestion and pain under the right shoulder and left breast. She was a married woman and had borne six children. About four months before applying for treatment she noticed, when undressing at night, a lump in the right side of the abdomen about as large as a fist, which seemed very hard. This growth had, she thought, increased very rapidly, and had extended somewhat to the left side of the abdomen; it was the seat of some tenderness on pressure. The notes, however, do not seem to indicate that she suffered any very great inconvenience from this abnormal condition.

The physical examination of the patient showed nothing abnormal in the lungs or in the heart, except that the latter was rather weak. The urine contained no albumin or sugar; was acid in reaction; had a specific gravity of 1015, and was voided to the amount of thirty ounces in twenty-four hours. It contained amorphous phosphates and uric acid. She had no jaundice. Examination of the pelvic organs showed nothing especially wrong. Palpation of the abdomen disclosed a hard, smooth mass in the right hypochondrium, which did not seem to extend back into the kidney region, and was so prominent anteriorly that it made a distinct elevation of the abominal parietes, which was evident on mere inspection. The abdomen was not tympanitic, and showed no evidence of inter-peritoneal fluid. The tumor was localized and moved upward and downward during the

respiratory act. It seemed on careful investigation, to be probably connected with the liver, though this diagnosis was not definitely determined. An explanatory incision was recommended and carried out on June 3rd, with the ordinary aseptic precautions observed in laparotomy cases.

An incision in the middle line was made, and extended for about seven inches, one-half of which was above and the other half below the umbilicus. Upon opening the peritoneal cavity I found in the right lobe of the liver a tumor resembling in shape a flattened cobble-stone, circular in outline and about three inches in diameter. It was perhaps an inch and a half thick, and located in the anterior portion of the right lobe of the liver, involving the edge, which was thickened by the infiltrated growth. The mass lay directly above the gall-bladder. There were no adhesions between the tumor and the intestines, omentum, or abdominal wall. The limit of the healthy liver tissue surrounding the tumor was readily discernible, because the growth, though not encapsulated, had a distinct outline where it came in contact with the uninfiltrated liver tissue. The surface of the growth was of a dirty brownish-white color, and showed irregular puckerings of the peritoneal investment of the liver, as though the peritoneum was thickened by chronic interstitial inflammation. No other growth was found in any part of the liver which could be reached by careful exploration with my hand. Although I believed the tumor to be a malignant one, I considered it a proper case for excision, because there was no infiltrated tissue beyond the immediate seat of the tumor.

My intention was to excise the mass with a Paquelin thermo-cautery knife, and I began by separating the gall-bladder from the under surface of the tumor by means of the hot knife. Before I had dissected the gall-bladder loose a quite free hæmorrhage occurred from the surface of the liver from a vein the size of a goose quill, which was opened by the cautery. Just at this time one of the rubber bulbs of the thermo-cautery burst and destroyed the instrument for further use Not expecting to use the Paquelin cautery I did not have a second instrument in readiness; I was, therefore, obliged to abandon the operation because of the evident risk from profuse hæmorrhage, which would probably be uncontroliable without the use of the cautery. It did not seem wise to allow the patient to wait under ether with the abdomen opened until another instrument could be obtained. I was also deterred from proceeding by the fact that the operation was, under the best circumstances, grave, and the permission of her friends had been given somewhat unwillingly. To arrest the hæmorrhage from the large vein I stitched the gall-bladder in its former position against the liver, so as to close the opening in the vein by pressure. This was done with several silk sutures, and answered admirably. I intended, after the patient recovered from the immediate effects of the operation and gained strength, to reopen the abdomen and, with two thermo-cauteries at hand, make a second attempt at removal of the growth. The patient was put to bed, did well, and the temperature remained about normal. During the time of convalescence, however, she was quite weak, complained occasionally of pain in the abdomen, and had a little irritation of the bladder, causing her urine to dribble. The stitches in the belly wall were removed in a few days, but the patient was not discharged until July 12. There was no marked change in the liver growth that could be appreciated through the flaccid abdominal wall. Her detention in the hospital for so long a time was due to her feebleness and to the fact that in the latter part of June she had what appeared to be a slight attack of pleurisy. This, however, did not cause her temperature to rise much over 100°. She was feeble during the whole time of her stay in the hospital, her pulse varying from 100 to 112; even when she was discharged the pulse counted over 100.

The condition found by the exploratory incis on was described to her and to her friends, and an effort made to obtain their consent to a second operation definitely planned for the radical removal of what was believed to be a malignant growth, which could only have a final fatal issue. The feeble condition of the patient, however, did not permit me or Dr. Fullerton to urge the operation as much as we would have done had the patient been younger and in vigorous health. It was impossible to obtain the consent of her friends to the operation, and the case, therefore, passed out of my hands.

It seems to me that hæmorrhage would be greatly diminished by encircling the growth, before excision, by a series of enterlocking sutures of strong silk carried through the entire thickness of the liver. This, as I told the hospital class, would probably be my method of guarding against bleeding. The excision would then have been made with the cautery. There would have been left, of course, a large hemispherical wound in the anterior portion of the liver.

The patient died September 17, 1892, but I was ignorant of the fact until after she had been buried. Her physician, Dr. C. K. Rowe, writes that before death the patient's skin became of a decidedly yellow hue, that the tumor had increased somewhat in size, and that two or three small tumors were discovered on the back and neck. She became very much emaciated, and apparently died from exhaustion.

At the time that the patient whose history is recorded, was under my care I was not fami
with the report of Dr. L. McL. Tiffar[illegible]se of removal of a small tumor of the liver, or of the

details of Dr. W. W. Keen's case of excision of a cystic adenoma from the liver. I had heard that Dr. Keen had successfully removed a growth from a liver, but I had not seen the report. These two cases, so far as was know to Dr. Keen at the time his paper was written, were the only instances of resection of the liver for the removal of tumor that had occurred in America.

Dr. Tiffany's patient was a man, aged twenty-five years, from whom a small tumor was taken from the left lobe of the liver, leaving a cavity in the surface of the liver an inch in depth and an inch and a half in diameter. Previous to the removal of this growth the parietal peritoneum was stitched to the liver around the area to be operated upon. Excision of the tumor was then performed by means of scissors, and the Paquelin cautery was applied to the bleeding surface. The tumor, which had been a painful one, "was composed of liver tissue in which there was much exudation, while scattered through the growth were many fine grains of sand—no doubt, minute calculi."

The patient operated upon by Dr. Keen was a woman, aged thirty-one years, who had suffered with a slowly-growing lump in the right side of the abdomen for about two years' time. The tumor proved to be a cystic adenoma of the bile ducts; it was three and a half inches vertically and nearly of the same dimensions transversely; at its base where it joined the liver substance it was two and a half inches thick. Its internal border lay next to the gall-bladder, which had to be dissected loose for one-half inch, in order to afford access to the growth in the operation of removal. Dr. Keen's first idea was to ligate the thick border of attachment before applying the cautery to cut through the liver tissue; he, therefore, put one stitch directly through the liver substance near to the gall-bladder. After this was tied he used the cautery. The cautery knife acted so satisfactorily that he found no necessity for further ligation of the liver substance surrounding the tumor, but removed the growth partly by the use of the cautery and partly by enucleation with the finger-nail. The large veins that he met with while making the incision with the hot metal were ligatured, as they were discovered, before the cautery divided them. The two flaps of liver tissue left by the removal of the growth were then sutured together, very much as flaps are stitched after amputation of a limb.

The cases of Drs. Tiffany and Keen both recovered, and were in good health months after the operation. Dr. Keen's paper includes a list of twenty reported cases of removal of hepatic tumors, which was compiled by Dr. T. S. Westcott after thorough search through a large mass of literature.

Consideration of these cases induces Dr. Keen to believe that quite a large portion of the liver can be removed without extreme danger to the patient; that the entrance of bile into the peritoneal cavity is not necessarily fatal; and that bleeding can be managed by searing the surface of the liver, by ligation, or by fastening the stump to the abdominal wall in a manner similar to that used by Dr. Tiffany in his case to which I have just referred. Hæmorrhage need not be great, as the divided vessels can be tied separately or in mass, or treated by pressure, by the cautery, or by a combination of all of these hæmostatic measures. The mortality shown by the cases tabulated by Dr. Westcott is about ten per cent.—John B. Roberts, M.D., Philadelphia.

SUPRAPUBIC PROSTATECTOMY.

Mr. Buckston Browne read a paper on this subject.

The President commended the conclusions so cautiously formulated by the author. He had seen Mr. McGill's preparations, and these certainly comprised a great deal more than strictly intravesical growths. Overgrowths of the third lobe of the prostate had several times been removed accidentally in the course of lithotomy. He himself when performing cystotomy in a patient whose condition was well-nigh desperate, pulled away a piece of the prostate the size of a walnut along with the stone. Having ascertained that more growth was present, he proceeded to clean the floor of the bladder, and the ultimate result was excellent, for though it was five years since this was done the patient was now in good health, and had never since been obliged to have recourse to the catheter. Enlargement of the prostate was the cause, and not the consequence, of bladder disease. He deprecated the use of the silver catheter, perferring the rubber catheter, which was much more easy to manipulate and less dangerous.

Mr. Reginald Harrison disclaimed any desire to pit one operation, so to speak, against the other, but asked whether the author would limit operative procedure in enlarged prostate to that described in his paper.

Mr. Bruce Clarke said it had often occurred to him while making *post-mortem* examinations how easy it would have been to treat the case if only one had been able to diagnose exactly where the enlargement was situated. It was generally situated within the urethra, less frequently at the neck of the bladder, and, lastly, within the bladder. Of course, when within the bladder the growth ought to be removed. The situation of the enlargement could be made out with approximate accuracy by observing how long it took before the catheter reached the water, and in these patients it was often possible by bimanual examination, under chloroform, to map out with the finger the

size and outline of the enlargement. The most difficult cases to treat were those in which the urethra was compressed, but it was, above all, a question of diagnosis. These outgrowths on the surface of the urethra amounted to stricture. In small diffused growths it was often sufficient to touch them with the actual cautery—galvano-cautery or Paquelin's—which set up absorption or shrinking. He thought the author had somewhat exaggerated the hæmorrhage attending these operations. Hæmorrhage did not seem to have been a very important factor in determining the fatal issue in the unsuccessful cases.

Mr. Swinford Edwards concurred in the view that the electric light did not render any great assistance in the diagnosis, and more might be learned by means of the finger in the rectum with a short beaked sound in the bladder. He had performed suprapubic prostatectomy a year ago on a patient aged 50, who presented a distinct enlargement of the prostate with a sessile tumor projectly into the bladder. This he removed with scissors. He had used Gouley's instrument for puncturing the enlarged prostate on several occasions, but though immediate relief followed recurrence soon took place. He demurred to the proposal to abstain from operating early in catheter life. If one diagnosed a growth lying over the vesical orifice and causing obstruction, then the sooner it was removed the better, and unless the existence of an intravesical pedunculated growth could be made out he would not operate at all.

Mr. Marmaduke Shield urged that the use of silver catheters ought to be altogether discarded in cases of retention due to enlarged prostate. The variable vascularity of the prostate would account for the occurrence of severe hæmorrhage in some cases and not in others. He had only performed suprapubic prostatectomy twice, and had been struck by the amount of hæmorrhage. The condition of the kidneys must necessarily influence the surgeon in deciding upon the propriety of surgical intervention. The worse cases for this operation were undoubtedly those in fat elderly men in whom obesity was associated with emphysema and chronic bronchitis.

The President agreed that so far as he had been enabled to observe, sexual indulgence did not play a great part in determining enlargement of the prostate. He facetiously recalled the old belief that the enlargement was closely associated with the love of money.

Mr. Browne, in reply, said that in many cases in which growths or tumors had been removed by the perineum by accident in the blades of the stone forceps, though the wound had healed, the power of the bladder had not been restored. That might, however, be due to the operation not having been performed in a scientific manner. In the case alluded to by the President, there had been a long-continuing urinary fistula. He admitted their indebtedness to the President for introducing the vulcanised rubber catheters, which were undoubtedly the best in prostatic cases, but it could not be denied that the rubber catheter did not "go." There were two catheter traps at the very neck of the bladder. These were enlarged prostatic sinuses, one on either side of the verumontanum. When the middle lobe was enlarged, that pocket was well open, and formed a very firm obstruction to soft instruments. Though Mr. Harrison had been fortunate in respect of hæmorrhage and urinary fistula, his own experience had not been by any means so satisfactory. Moreover, this unsatisfactory experience had not been his alone, but he had observed it in the hands of others. Statistics were valueless in respect of this operation, their number being comparatively small, and the individual cases differing so much from each other. Keyes, of New York, described it as "the most horrible operation in surgery." He agreed that as a general rule the use of silver catheters was not advisable, but at the same time there were cases in which they were indispensable in order to effect an entrance into the bladder. As to the kidney disease, he observed that these were desperate cases, and the surgeon would not stop to weigh possibilities in endeavouring to afford relief.—Dr. Browne in *Brit Med Jour.*

THE ACTION OF QUININE, ATROPINE, PILOCARPINE, ANTIPYRIN, AND ANTIFEBRIN ON THE ELIMINATION OF URIC ACID BY THE URINE, AND ON THE NUMBER OF LEUCOCYTES IN THE BLOOD.

In an able research, J. Horbaczewski (*Revue de Thérapeutique Générale et Thermale* September 20, 1892 ; *Sitzungsberichte der K. K. Wiener Akademie der Wissenschaften*, t. c.. sect. 3, p. 101) appears to have demonstrated the relation that exists between the number of leucocytes in the blood and the quantity of uric acid eliminated under the influence of alimentation. When under the influence of food, the leucocytes increase in number in the blood, there is at the same time, an increase in the elimination of uric acid. Under certain circumstances, the leucocytes give rise to the formation of uric acid ; and, on the other hand, this is also dependent on the disorganization of the leucocytes, which undoubtedly takes place in the organism, especially in the case of mammals. In other words, the chemical substances which act upon the leucocytes influence the production of uric acid, and inversely. It has long been established, particularly by the researches of Ranke, Kerner, Prior, Kumagawa, and others, that qui-

nine diminishes the elimination of uric acid; and, according to Binz, the drug similarly decreases the number of leucocytes in the blood. This has been confirmed by recent researches.

Atropine, in daily doses of one miligramme, has, in three cases, produced the same effects as quinine,—that is, a lessening in the number of white cells in the blood, and in the amount of uric acid eliminated by the kidneys.

With the hydrochlorate of pilocarpine the results have been different,—that is, there is an increase in the number of leucocytes and a correlative increase in the quantity of uric acid. The dose of the drug administered by the mouth was 1 centigramme in each of the three cases observed, and of 1½ centigrammes in the fourth instance. In other experiments performed in lower animals, the pilocarpine given hypodermically, in doses of from ½ to 3 centigrammes per kilo of the body-weight only produced an increase in the size of the spleen. This result is more remarkable, since the drug is an excitant of the contractile elements of the muscular fibre; it has a similar action on the intestine, causing a constant diarrhœa. The author calls attention to the contrast existing between the effects produced by quinine and those caused by pilocarpine. Quinine, without influencing the contractile elements at all, diminishes the volume of the spleen; while pilocarpine, acting on these contractile elements, produces an increase in the size of the same organ. The observer believes that these changes in the spleen, caused by the two medicaments, occur independent of any action exercised by the drugs on the contractile elements of the organ.

Antipyrin, in doses of 2 grammes, and antifebrin in amounts of 5 grammes, produce what may be called opposing results,—that is, a diminution in the quantity of uric acid eliminated by the urine, and an increase in the number of leucocytes in the blood. The author affirms, therefore, that the actions of antyprin and antifebrin, on the one hand, and the effects of quinine, on the other, are not identical, or at least cannot be considered as such.

Kumagawa has observed an increase in the elimination of uric acid under the influence of large doses of antipyrin, and an increase in the elimination of nitrogenous principles under the action of large doses of antifebrin. These two drugs, according to the author, influence nutritive changes differently from quinine. For example, under the action of antipyrin there occur no atrophic changes in the spleen, as it happens in the case of quinine. Finally, the influence exercised by the latter drug on the production of leucocytes differs from that of antipyrin and antifebrin, which, in large doses, increase the number of said leucocytes in the blood.—*Therap. Gaz.*

THE PHYSICIAN'S LIABILITY FOR MALPRACTICE.

This subject is one of the many regarding which the law is an inchoate mass. The only rule to be followed when sued for professional negligence is to consult an attorney and see what the "latest guess" of the supreme court of your State has been on the subject.

At the same time, there are certain commonsense rules which should be familiar to the practitioner, and the knowledge of which may save him from the loss of many hard-earned fees.

Any one-man-power business is liable to be conducted imperfectly. The lawyer or doctor who goes through life without making errors is more than human. The tired and over-worked brain cannot work perfectly. But we must recognize the fact that one who holds himself out as a physician is bound to accept the responsibility that attaches to his employment.

The doctor must exercise ordinary care, and such care as is commensurate with the duties of the particular case. He is not always held liable for failing to employ the latest methods of treatment; certainly not, when the worth of the latest methods is not generally admitted. The decisions defining the degree of care run through the whole gamut, from "slight" to "extraordinary." Some courts have announced that the physician must be possessed of the amount of knowledge and exercise the degree of care, usual among the physicians of his community; reasoning that the country doctor of limited practice and poor clinical facilities cannot be expected to display the skill of the practitioners in large cities, or to keep as well abreast with the process of the science. Others assert that the physician in general practice cannot be held to the same degree of care in special treatment, such as of the eye and ear, as one who confines himself to practice as oculist or aurist.

To recover against the physician for negligence, it must be shown that his want of care was the immediate or proximate cause of the injury complained of. The doctrine of contributory negligence sheds its kindly light upon the physician as well as upon corporations. So where a physician and surgeon was sued for malpractice in treating a diseased foot, and it appeared that he commanded absolute rest for his patient, which injunction was disregarded, and the injury complained of was partially produced by the failure of the patient to follow such instruction, it was held that no recovery against him could be had, even though his treatment had also helped to produce the injury. This holding, has been attacked, however, many decisions holding that where the doctor is primarily at fault, the fact that the patient or the nurse was negligent can only be shown to mitigate the amount of damages.

When doctors form a partnership in their practice, the firm is liable for the negligence of either member. When a physician and surgeon contracts with a corporation to treat persons injured through its negligence, and he and his assistants are guilty of malpractice in such treatment, it has been held that the corporation can recover from him for damages sustained by the corporation for such malpractice. This decision is somewhat questionable.

The measure of damages is the same as in other cases of negligence. The proper elements of damage are loss of time sustained by reason of the malpractice, expenses for medical and surgical attendance, nursing and medicine incurred in effecting a cure, mental and bodily suffering, and the prospective injury, if any. All these are comprehended under the term "actual damage."

Exemplary damages—or damages awarded by way of punishment of the defendant—are the discretion of the jury when it is shown in evidence that the physician's negligence is so gross and wilful as to raise a presumption that he was conscious of the probable consequences of his carelessness, and indifferent to the injury liable to follow.

In conclusion it is always advisable to consult competent counsel the moment a suit of this kind is threatened. Correspondence with the plaintiff or his attorney is apt to prove awkward later on. In a recent New York case the patient had consulted another physician who instigated the bringing of an action against the doctor first employed. The defendant, thinking that by a private interview with his successor he could so explain his method of treatment as to convince him it was proper, called at his office. The result was that his admissions made during the interview lost his case, and heavy damages were recovered.

Innocent-looking letters and brief conversations of parties to suits are the bane of a lawyer's life. Then, too, a large proportion of plaintiffs in suits of this kind are unscrupulous enough to distort casual talk into serious admissions. It is enough to say, "See my attorney;" for the rest silence is golden.—*Med. Mirror.*

THE DOCTOR, A GENTLEMAN.

In speaking of a physician as a gentleman, I do not mean simply a finely-dressed man, nor go so far as to claim he should be a Chesterfield in manners, nor a Beau Brummel in dress, nor even a fantastical Alcibiades, with his canine follower, but in every respect a gentleman in the true acceptation of that term. Of course, the term has various significations, according to the country you may be in or speaking of. In this country it means a man of good manners, pleasant address, social disposition, and an honest man. But a physician should possess more than these qualities; he should be a man of kind, sympathetic feelings, and liberal in character. We might cite as a fair sample a man of our own guild, the celebrated and venerable Autocrat of the Breakfast Table, Dr. Oliver Wendell Holmes.

In England the term gentleman has a different signification from what it has with us. In that country it means a member of the aristocracy, with but little regard to his personal qualities.

A physician, however, should occupy a high plane in the community in which he lives, and so conduct himself as to be worthy not only of the confidence of his patrons as a physician, but also as an example for his neighbors to imitate. He should, if possible, be well informed on most ordinary subjects, especially such as his friends are interested in, and thereby be able to render advice and instruction when called on.

As a rule, the family doctor is looked up to as a man who should know something of almost everything, and is frequently asked for information on various subjects. In a few words, the doctor should not be a fool on any subject.

But the principal reason inducing me to write this paper is to say a few words in regard to the social and professional status existing among many members of the profession. Unfortunately for good fellowship among our fraternity, there exist unkind feelings, engendered, no doubt, in many instances from slight causes, and again in other instances without any cause at all, if the matter was properly investigated. Sometimes this bad feeling is brought about through the love of gossip or tattling by enemies on one side and pretended friends on the other, which has not the least foundation in fact. But, unfortunately, in other instances there exist true grounds for unkind feelings between medical men. And right here we find lacking those characteristics which go to make up the true gentleman.

It should be understood by every man entering the medical profession that it is not one of competition in trade, where tricks and misrepresentations can be practiced with impunity, but he must regard it as a noble calling, wherein a member is to be governed by an honorable code of ethics, which should never be violated. In fact, I have always thought the Code of Ethics governing medical men, as it pertains both to the etiquette which should exist between themselves as well as the relations they sustain to the public, should be especially impressed upon the minds of the students, and believe, were this the case, many practitioners would avoid doing many things which are unpleasant to each other, and thereby preserve that friendly and social relation which should exist among all medical men.

On account of unfriendly feelings existing among neighboring physicians, especially in the country,

many times consultation is refused, when the sick man is compelled to send some distance for a friendly compeer to meet his family doctor, thereby involving greater expense.

How often do we find it the case that in small towns where two or more physicians are located, they are hardly on speaking terms. This fact soon becomes known to the public, and partisans of each physician will soon spring up, taking sides with their favorite doctor. These factions may soon engender strife and bad feelings among themselves, and intensify that already existing among the doctors.

This condition of things is unfortunate for any community, and should always be avoided. One may ask, What connection can there be between a condition of affairs as described and gentlemanly deportment? It requires many traits of character to constitute a gentleman, one of which is suavity in manners. Do nothing to offend your neighbor in word or action, and a state of friendship will likely be maintained. Believe nothing you hear that your neighbor has said or done respecting you until you have satisfactory proof of its truth. Many friends have been made enemies through gossipy inuendo, without any foundation in fact. If a medical brother should, in his relations to other practitioners, violate the Code of Ethics, he should be reprimanded in a gentle manner, and if he is a good man he will not repeat the offence.

There are some things connected with the Code of Ethics that should regulate etiquette between medical men that might be regarded by young practitioners as so trivial in character as to be violated with impunity. They may think it no harm to solicit patronage, even in families who employ another physician; or they may regard it a harmless matter to advertise themselves as superior to their neighbors; or to give it out that they have a great deal to do even when there is but little sickness. Some go so far as to employ partisans to sound their praises as skillful physicians whenever opportunity offers.

These matters look like small things among the people, but are very repugnant to the feelings of a sensitive physician, and are regarded by him as tricky in character and unbecoming a true gentleman. No doubt many young men in the profession, in the outset, are so anxious to succeed in practice that they regard these offences against the Code in the light of small matters, and if properly tutored could be reclaimed from such violations.

But, unfortunately, we now and then meet with a man who is entirely devoid of any compunction of conscience as it respects the violations of the Code. A few of this class I have had the misfortune to meet during my protracted practice, but am glad to say they have been but few in number.

I believe, however, that many members of the profession are unfriendly with each other on very trivial grounds, and that if proper interviews were held amicable relations could be restored. There is nothing more unpleasant to my ears than to hear my medical brethren talk disparagingly of each other, especially so when I regard the parties involved as my particular friends. It has been a rule with me since I became a member of the profession, now nearly a half century ago, not to speak slightingly of any brother member. If I cannot say a good word for him I keep silent; but, as a rule, there are but few doctors we can not say a good word for in some particular; and it always does me good when I can frankly speak in praise of my medical brother.

I think if we all could take this view of the matter, and practice it, that there would be much less unkind feeling existing among medical men. In a few words, let us all endeavor to be gentlemen in all the various significations of the term.—T. B. Greenley, M.D., in *Am. Prac. and News.*

SALICYLATES IN THE TREATMENT OF PLEURISY WITH EFFUSION.—1. Salicylic acid and its salts are among the most effectual agents in the treatment of pleurisy with effusion.

2. In effective doses the remedy is harmless, and, with proper selection of the preparation, and care in administration, causes little or no discomfort to the patient.

3. Salicylates act most promptly in pleurisies with serious effusion of recent origin or of long standing, but they are efficient in simple dry pleurisy, and often act favorably in secondary pleurisy.

4. There is no evidence that they are useful in suppurative cases.

5. The drug acts as a diuretic, but may have an effect on the pathological process, or on the cause of the disease.

6. Salicylates have a more marked action in pleurisy than have the diuretics, commonly so called.

7. "The duration of the treatment with salicylic preparations is less than with diuretics, common salt, or roborant medication." (Engster.)

8. The remedy can be used at the earliest period, and favorably effects all symptoms.

9. The drug may be given in the form of the acid, or any of its salts, in doses of a drachm of the former, or 1 to 2 drachms of a salt daily. In ordinary cases it is not necessary to give the large doses, and 60 to 90 grains of sodium salicylate or salol daily may be considered full beginning doses, to be diminished one-third or one-half after the effect is manifest.

10. The ordinary precautions must be observed in giving the drugs, and during their administration the total amount of urine should be measured daily.—*Therap. Gaz.*

THE CANADA LANCET.

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TORONTO, MAY, 1893.

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ALCOHOL AS A MATERIA MEDICA.

The title delimits the scope of the article, and should make it impossible to stray afield in a disquisition upon the merits and demerits of alcohol not as a drug but as a beverage. Frequent distributions of campaign literature from the total abstainers are made upon the medical profession, full of the usual *ex parte* and frequently very extreme statements of "eminent practitioners," and bristling with clinical data from such authorities as the National Temperance Hospital of Chicago, whose chief physician declares, as the seventh dictum in the code, that "there is no disease affecting the body that cannot be more successfully treated without than with the use of alcohol." Mere physiological reasons, based mainly upon laboratory experiment, should not determine the guarded or candid practitioner's conclusion, nor should the effects of alcohol in any form or dose upon the healthy individual be admitted as sufficient generalizations as to the value of the drug in sickness. We do not adopt these lines of observation in studying the action of any other drug, say belladonna, or opium; why then are they adopted in the controversy upon alcohol? Mainly because observers study the action of the drug as a beverage. No medical man breathes who does not freely acknowledge the deplorable effect of the indiscriminate use of the poison, and who would not rather have as patient in any severe illness or accident a total abstainer or at least a temperate man than a *habitué* to the drug.

Clinical observation and experience alone would seem to have the right to determine the question, and it is very improbable that medical men more than one in a hundred will ever be so blind to results as to say that alcohol has no place of value in our drug-list. It would be interesting and profitable to trace the history and geography of medical opinion and practice on the question. We should probably find that in a country like this, where total abstinence is the rule, the profession have vastly less trouble with patients in the matter of dietary, wine-list, enforced abstention from alcoholic beverages during sickness, than say in England or in France. It is more than likely too than when physicians here do prescribe alcohol wisely as a drug they find much more speedy response to its action, and are able to do more good by its exhibition, than their *confrères* in beer or wine drinking communities. Physicians a generation ago were perhaps, and we say it deferentially, too ready to order alcoholic beverages to all kinds of patients for all kinds of disease, as witness the wine depots and dispensaries established by the charitably disposed in so many districts in Britain in the early part of the century, that the poor might have the same generous and stimulating luxuries as the rich. The authorities of to-day show a strongly discriminating bent in their recommendations. Even so long ago as the days of Graves and Armstrong, the following wise rules were laid down for the use of alcohol in fevers, which might even yet be remembered with profit.

1. If the tongue become more dry and baked than before; 2. If the pulse become quicker; 3. If the skin become more hot and parched; 4. If the breathing become more hurried—alcohol is doing good and should be used. It may be said that at either extreme of life, infancy or old age, alcohol is more universally useful. The main indication for its use in any acute illness is the state of the heart; not so much the rate and rhythm of the pulse as the character of the heart sounds. If when the fœtal rhythm is heard, the first sound approximating the second in length, and the two intervals the same, alcohol be given, the heart beats will nearly always improve, and the patient may be tided over a critical period of collapse to a safe recovery. Its effect on the heart had better be observed by the stethoscope. The stage in any acute illness at which its admin-

istration should be begun is determined mainly by the heart. As an antipyretic it is only secondarily useful, but it would seem undoubtedly to diminish the excretion of urea, that is, the amount of tissue waste going on during pyrexia. It is well known that in febrile states amounts are taken without any intoxicating effect that could not be tolerated in health. Ringer says, among many excellent maxims about alcohol, that "there can be no doubt that alcohol is not required in all febrile diseases; on the contrary, many cases are best treated without it." He deprecates the giving of large amounts at long intervals, fearing collapse after the period of strong stimulation following on the ingestion of large quantities, and recommends the more gentle continuous action of smaller amounts frequently given. The age of the patient as well as his disease must be considered. As prostration comes on early in the old, it should be anticipated. Previous habits must be reckoned upon. While in drunkard's pneumonia enormous quantities are necessary, and usually from the start, young and sthenic cases frequently need none at any time during the attack. The use of the drug in chronic ailments, such as dyspepsia, is quite another matter, and the responsibility of the physician in ordering it is frequently most serious, especially if his patient be a female. Heredity should, in all such cases, be carefully considered, and the possibility of the formation of a habit, a calamity which is very unlikely to occur as the result of an acute illness, but not unlikely if it be chronic ailment.

THE MEDICAL AND PHARMACY ACTS.

The present Legislative session is invested with considerable interest both for the medical profession and that of pharmacy.

A radical bill of amendments to the Medical Act has been introdueed by Dr. Meacham, who acted as sponsor for that of last year, which met with a disaster. Did space allow, we would like to discuss the various details of the proposed bills, but it is sufficient to say for the information of the profession, that the amendments asked for are much in the same line as the circular issued some ago by the Medical Defence Association It would, perhaps have been better had the controversial points been settled by the members of the profession without the interference of the Legislature, and though such reconciliation failed to be effected at the joint-meeting of the committee held last autumn, the time for the election of a new Council is not so far distant, that any interests would greatly suffer, were these disputed matters left in abeyance for the voice of the electorate.

The turmoil in affairs medical, has accomplished at least one good purpose, in leading many medical men, who had hitherto thought but little of council affairs, to give them a fair share of attention.

It is to be hoped that our Legislature may see the wisdom of advising the profession to settle its family disputes under its own roof; but if not, we have no doubt that, as is an everyday occurrence in the courts of the land, a fair and amicable settlement of the differences will be effected at the last moment between the opposing litigants, and that thereafter harmony shall reign.

As to the proposed changes in the Pharmacy Act, of which we gave the main points in our March number, we believe that the Legislative Committee promptly took such steps as led to the abandonment of every clause that might in the slighest degree conflict with the vested interest of medical men.

MEDICAL EXAMINATIONS.

TRINITY UNIVERSITY.

Final Examination for M.D.C.M. Class 1.—Gold medal and certificate of honour—W. Glaister. Silver medal and certificateof honour—T. Douglas. Certificates of honour—J. C. Stinson, E. Tomlinson, R. E. Macdonald and J. T. Robinson (æq), C. H. Bird, F. J. Burrows, D. J. Dunn, R. Brodie, F. W. Mulligan. The following are also in the first class: J. K. M. Gordon, P. J. Moloney, W. J. Ross, R. J. Corbett, J. A. G. Wilson, J. H. McGarry, R. King, W. A. Thomson, N. Campbell, J. H. Austin. Class II.—W. F. Wakefield, J. H. Hudson, F. G. E. Pearson, W. T. Arnott, A. F. Rykert, J. J. P. Armstrong, C. W. Beemer and W. Doan (æq), H. McKendrick, T. W. Carlaw, J. E. King, W. W. Andrus and J. R. Roseborough (æq), J. B. Ferguson and J. M. Rogers (æq), Miss M. M. Brander, F. J. Ball, C. Carter, L. Lapp, R. J. Teeter, R. S. Dowd, J. R. Bingham, D. D. Wickson, C. J. Taylor, W. H. P. Tufford. Class III.—H. H. Alger, I. Bowie and R. E. Darling

(æq), C. J. Laird, J. H. Duncan, R. D. Alway, S. H. Large, A. B. Singleton, J. R. Hopkins, Miss E. J. Ryan.

TRINITY MEDICAL COLLEGE.

Final Fellowship Degree. Certificates of honor —Candidates who obtained 75 per cent. and over —Charles Harold Bird, John Coplin Stinson, Wm. Glaister, Edward Tomlinson, Francis James Burrows, Fred Wm. Mulligan, Thomas Douglas, Ralph Brodie, David J. Dunn, Robert Elgie Macdonald, J. T. Robinson, Wm. A. Thomson, Warren Doan.

70 per cent. and over—Innes T. Bowie, R. T. Corbett, J. R. Roseborough, R. J. Teeter, J. A. G. Wilson, R. A. S. Dowd, T. W. Carlaw.

60 per cent. and over—W. J. Arnott, J. J. P. Armstrong, H. H. Alger, J. R. Bingham, C. Carter, N. Campbell, R. E. Darling, J. B. Ferguson, J. E. King, Robt. King, S. H. Large, W. J. Ross, D. D. Wickson.

Passed—J. H. Duncan, A. B. Singleton.

Dr. Sheard's prize in Physiology—F. G. Wallbridge. Dr. Ryerson's prize in Applied Anatomy —F. J. Burrows.

Scholarships—The 1st first year's scholarship, $50, J. R. McRae; the 2nd first year's scholarship, $30, J. H. Oliver; the 3rd first year's scholarship, $20, A. V. Hart and W. H. Weir (æq); the 1st second year's scholarship, $50, J. C. Hutchison; the 2nd second year's scholarship $30, Frederick Parker.

Medals.—The second Trinity silver medal, Wm. Glaister; the first Trinity silver medal, John Coplin Stinson; the Trinity gold medal, Charles Harold Bird.

TORONTO UNIVERSITY.

Final Examinations for M.D.—H. A. Bruce, M.B.; C. J. McNamara, M.B.

Degree of M.B.—R. D. Away, F. J. Ball, C. W. Beemer, F. Blanchard, W. F. Brown, R. M. Calder, T. Coleman, B.A., G. S. Glassco, F. E. Grant, J. R. Hopkins, C. J. Laird, W. H. Lambert, W. J. McKenzie, J. A. McMillan, B.A., J. A. McNaughton, F. Martin, W. E. Olmstead, F. G. E. Pearson, J. M. Rogers, A. F. Rykert, B.A., H. H. Sanderson, J. H. Shouldice, E. H. Stafford, H. A. Wardell, J. A. Armstrong, J. H. Austin, W. Chambers, W. Elliott, T. B. Futcher, E. E. Harvey, J. N. Harvey, B.A., V. W. Hill, J. E. Lehmann, D. McAlpine, J. H. McGarry, H. F. McKendrick, J. R. Mackenzie, D. Marr, A. H. Nicol, B.A., W. F. Park, H. D. Pease, J. B. Peters, F. W. Pirritte, T. E. South, S. G. Story, C. J. Taylor, C. W. Thompson, P. D. Tyerman, W. F. B. Wakefield, J. J. Williams.

MEDALS AND SCHOLARSHIPS.

Faculty Medals.—Gold, J. N. Harvey, B.A.; silver, 1st, T. E. South; 2nd, W. Elliott; 3rd, T. B. Futcher. E. E. Harvey, equal, subject to the granting of a second medal by the Faculty of Medicine.

Scholarships.—Third year, 1st, W. J. McCallum; 2nd, J. H. Bull. Second year, 1st, T. W. G. McKay; 2nd, J. R. Lancaster. First year, 1st, W. Goldie; 2nd, E. L. Roberts.

QUEEN'S UNIVERSITY.

Final Examination for M.D.—G. H. Austin, A. N. Baker, B. F. Black, J. E. Countryman, J. H. Cormack, J. J. Gibson, J. L. Gibson, G. C. Giles, H. J. James, N. P. Joiner, J. A. Locke, Miss M. Leavitt, R. S. Minnes, M.A., W. G. Malcolm, J. E. Murphy, H. McDonnell, G. McGrath, M. J. Neville, A. C. Robertson, F. S. Ruttan, Miss C. Ryae, R. G. Smith, W. Walkinshaw.

ON THE DECADENCE OF TRUE HOMŒOPATHY.—The *Homœopathic Physician* utters (*Med. Standard*), the following melancholy wail over the decadence of homœpathy:

There are between twelve and fourteen thousand physicians in this country who claim to be homœopathists, and if a vote were taken upon the subject to-day as to whether similia is a universal law and should be strictly adhered to in all medical cases, at least sixty per cent. would vote against it; and there is no such a universal since "homœopathy is only a system of medicines, and not the only true system of cure; that similia similibus curantur should be written similia similibus curenter (Hughes and numerous others), and similia would answer in some cases, but in others we claim the right to the armamentarium of all the schools of practice, and the physician who would not do so should not be allowed to practice, and be put down as a bigoted hahnemaniac (the last pronounced with a slur.)" Now why is this the case? If you should speak of them about "The Organon" many of them would not know what you meant; they would very likely ask, is it some new medicine, or is it something good to eat? and who has gotten it up, or what is it made of? I have never heard of it before." Were you to tell them that it was Hahnemann's promulgation of the law of homœopathy, and that no one could practice homœpathy until he had made himself familiar with the law (the teachings of "The Organon"), and that it can be obtained nowhere else but from "The Organon," they will laugh in

your face and tell you that you are one of those new-fangled hahnemaniacs, and that they have no use for it; that "Hahnemann was an old fogy," that he may have done well enough in his day, but we are progressionists and have long since outgrown him; that we have learned a great many things that Hahnemann never knew, or ever thought of. No, I do not think I want it." Should this appear strange when "The Organon" has not been taught in any of the colleges—that it has been left out of their curriculum? Could anything else be expected when many of the professors of these misnamed colleges have never perused a page of "The Organon" in their lives? Then how could they teach it (the law) to their students? Is there not something wrong here? Shall we allow it to continue?

THE GENU-PECTORAL POSITION IN CERTAIN UNFAVORABLE PRESENTATIONS. — The following communication to the *Brit. Med. Jour.* from Dr. E. T. Ensor, speaks for itself. The writer might have included prolapsed funis as an accident calling for the adoption of the genu-pectoral position: "In the first volume of the *Brit. Med. Jour.* for 1880, page 888, I drew attention to the fact that delivery was easily effected in a case in which the head, hand, and foot presented—and in which I had failed to accomplish it whilst the patient was lying on her side—by placing the woman in the knee-chest position. I have recently had another case in which the same method of procedure served me well. Mrs. W., a very stout woman, aged 39, one child born seventeen years before, never pregnant since, was taken in labor at the eighth month. I found the membranes ruptured and the child presenting by the breech. Labor proceeded normally until all but the head was born, when a delay occurred. Passing my fingers, I discovered the head of another child occupying the pelvis, interlocking that of the first. The patient being on her left side, I found that I could not, without using an unjustifiable amount of force, disengage them. The condition was exactly that illustrated in Dr. Playfair's plate of locked heads. Remembering my former case, and obtaining the aid of my assistant, I found that by placing the patient on her knees and chest, and thus allowing the uterus and its contents to fall forward, I was able with very slight exertion to push the head of the second child above the brim. The delivery of the first was then easily effected, and a few pains completed the birth of the second. The mother did well, but the children were stillborn, the first having been dead before the advent of labor, as was proved by its macerated condition. I think these two cases tend to show that in the useful, if somewhat indelicate, genu-pectoral position, we have a method which may be used with advantage, possibly, in rectifying unfavorable conditions such as face presentations, or to aid the operation of turning."

WHITE STOOLS.—The fact (*Med. Rec.*) of persistent white stools being passed when the patient is on a mixed diet, raises the question whether colorless motions necessarily imply absence of bile. Dr. Walker has shown that when the pancreatic duct is obstructed, white stools result, and argues therefrom that the pancreatic secretion is a necessary ingredient of the coloring matter of the fæces. In the only necropsy of a case of psilosis which has been reported, the liver, pancreas and their ducts were all normal (*London Lancet*). Dr. Wynter Blyth made an analysis of the stools of a patient of Dr. Thin, and showed that more than half of the organic solids consisted of neutral fats, apparently milk-fats, which had passed without being digested or saponified. Nearly six per cent. of bile acids were present as soap, thus showing that bile was not altogether wanting. As the fat in the stool was only a fraction of the quantity taken in the milk, it followed that a considerable portion of the milk-fat had been digested, thus affording clinical evidence of the presence of the pancreatic secretion. In fact, milk is the only diet many of the patients affected with this disease can take. The practical importance of these observations is obvious. It has generally been held that colorless stools denotes serious interference with the function of the liver or pancreas, either due to disease of the organs themselves or to obstruction of their ducts. We see, however, from the observation which we have just considered, that such is not necessarily the case; and it is a question well worthy of serious consideration, whether in numerous other cases we are right in concluding that the liver and pancreas are not acting normally, because this symptom (colorless stools) is present. Dr. Thin suggests that the coloring matter of the fæces in

psilosis is destroyed low down in the intestinal canal by bacterial action, and until some other agency is discovered, or the theory shown to be untenable, we must conclude that the views hitherto held as regards the white stools, although probably correct in the majority of cases, are not complete, and further information is necessary before the matter can be considered satisfactorily settled.

TEA, COFFEE AND COCOA.—Every point scored for temperance (*Lancet*) is a gain to national health, and we have satisfaction in noticing such an advance as is indicated by a lecture delivered recently by Dr. W. Woodward on behalf of the Worcestershire Health Society. The subject was "Tea, Coffee and Cocoa," As might have been expected the first-named of these beverages received the largest share of consideration. Its varieties, its different qualities, its chemical properties, its modes of preparation true and erroneous, were discussed at some length and with the happy result that it may still be regarded as a wholesome stimulant and restorative of the nervous system which, if properly made and used in moderation, is guiltless of after ill-effects. A comparison between the different known methods of preparing tea is of some general interest, the Japanese plan—which allows infusion for about a minute and a half, and which does not require boilding water, cream, or sugar—having evidently an attraction for the lecturer. For general use, however, he recommends the ordinary British custom, the infusion being drunk whilst recent and not strong. In this country we stand in equal, if not greater, need of teaching in regard to the qualities and preparation of coffee and cocoa. The former of these wholesome luxuries was treated of in considerable detail. We should have welcomed a somewhat fuller exposition of the properties and uses of the latter. A recommendation of cocoa in the nourishment of infants is, however, noteworthy and should prove of some practical service. The question of cost was not forgotten, The estimate for a cup of good tea ($\frac{1}{2}d$). and of good coffee ($\frac{1}{3}d$.) is instructive when the prices charged in many restaurants for infinitely poorer stuff are held in mind.

THE SURGICAL TREATMENT OF PERITYPHLITIS.—Von Bergmann, in a recent lecture (*St Petersburger medicinischrift*, 1892, No. 41), called attention to the confusion which exists in the classification of inflammation about the cæcal region. It is necessary to distinguish more carefully between typhlitis and perityphlitis than has heretofore been done. Cases called perityphlitis that recover after expectant treatment have been either cases of typhlitis, and should be so placed, or acute attacks of chronically inflamed vermiform appendices, which do not go on to perforation. Typical cases of typhlitis will rarely require surgical treatment unless there is obstinate constipation or ulcerations of the bowel. In describing affections of this region, that name should be used which will indicate the seat of the original trouble. When doubt exists in regard to diagnosis, much information can frequently be gained by examining the patient under an anæsthetic.

In one hundred sections for perityphlitis, Weir found the vermiform process perforated in eighty-four instances and the seat of inflammation three times. Einhorn found the appendix diseased ninety-one times in one hundred sections for perityphlitis. Matterstock, in one-hundred and forty-six operations in adults, found the process diseased one hundred and thirty-two times, and in forty-nine children in thirty-seven cases.

The earliest sign of an abscess is a positive indication for operation. In intra-peritoneal abscess, the possibility of multiple foci must always be borne in mind. If there is an extra-peritoneal abscess, it probably communicates with an intra-peritoneal collection. The radical excision of the vermiform process is to be done in the intervals between attacks. Cases of general peritonitis are unfavorable for operation, and one is justified in declining this measure.

SULFONAL.—Apart from its uses in simple insomnia and some of the neuroses (*Albany Med. An.*) sulfonal appears to have been of value in controlling such symptoms as reflex spasm and the uneasiness following traumatic injury. We note (*Medical Record*, July 2, 1892,) that Dr. Edmund Andrews, of Chicago, speaks of sulfonal as a certain remedy in the treatment of muscular cramps of the legs appearing during the night, and especially those accompanying those of the long bones. In a case of recently fractured femur, fifteen grain doses gave immediate relief. In the after-treatment of laparotomy, Dr. A. F. Jonas ((

Clinic, August, 1892,) says that the symptoms of sleeplessness occurring in these cases should always be relieved lest insomnia seriously complicate recovery; he usually gave sulfonal in such conditions. Dr. Althous (*Am. Jour. Med. Sci.*) recommends sulfonal for the insomnia liable to occur in the treatment of post-grippal psychoses. Dr. Alexander J. C. Skene has employed sulfonal in the after-treatment of laparotomy. He writes as follows in *Med. Mag*, March, 1882:

"Sulfonal does remarkably well as a sleep-producer, and is much preferable to bromide, chloral, or any combination of such remedies. It produces the desired result in the great majority of cases that are not kept from sleep by severe pain. This remedy is worthy of note as rather new, and is certainly one that will cause sleep with no other perceptible effect, good or bad."

BILIOUS HEADACHE.—Dr. Eccles, an English surgeon, recently read before the British Medical Association an able paper (*Bact. World—Med. Rev.*), on the treatment of what is commonly known as bilious or nervous headache, in which he called attention to the fact that the locality of the headache appears to be identical with a distribution of the nerves connected with Arnold's branch of the pneumogastric. In the words of the author, "The irritation of the gastric fibres is reflected or referred to the sensory fibres of the pneumogastric in the head (auditory branch). In the treatment of a large number of cases of this sort, we have observed, on examination, tenderness of the pneumogastric in the neck, invariably in the side affected the most frequently, and there is usually corresponding tenderness in the region of the solar plexus, or in one or both lumbar ganglia of the sympathetic. Massage is recommended by Er. Eccles as a salutary remedy in these cases, as he has uniformly observed dilatation of the stomach and deficient peristalsis of the stomach and intestines."

Our observations respecting the frequency of dilatation of the stomach agree very closely with those of Dr. Eccles. We have found, however, the quickest means of relieving nervous or sick headache is lavage to the stomach, which acts with unfailing and almost instantaneous certainty. The majority of patients declare themselves feeling better by the time the stomach washing is fairly completed, and in a few hours are fairly restored to their usual health, although accustomed to suffer many hours, or sometimes days, with the headache, when treated in the ordinary way.

TERPENE HYDRATE IN BRONCHIAL CATARRH.—Says Dr. Wm. Murrell (*Med. Age*), I am desirous once more of calling attention to the value of terpene hydrate in the treatment of affections of the bronchial and nasal mucous membranes. Its properties have been well known for many years, but in this country it has never been a popular remedy, and its claims seem to have been overlooked in favor of pure terebene and other similar compounds. It is a hydrate of turpentine, and is made by treating oil of turpentine with nitric acid and alcohol. It is a solid, and has somewhat the appearance of chloral hydrate. Its odor, which is slight, resembles that of pure terebene. The great difficulty in the way of its administration is that it is practically insoluble in water. It is usually said to dissolve in alcohol in the proportion of 1 in 10, but many specimens are far less soluble. On the Continent, where it enjoys a high reputation in the treatment of bronchial affections, it is used as a popular remedy in the form of an elixir. For some months past I have prescribed it in a solution containing 5 grains to the half-ounce, made up with simple elixir and flavored either with tincture of Virginia prune and syrup of tar or with the aqua laurocerasi. For patients who cannot take sugar the elixir may be made with saccharine. Terpene not only relieves cough and lessens bronchial secretion, but is a diuretic, and has been used with advantage in neuralgia.

EXTRACTION OF BITS OF STEEL OR IRON FROM THE CORNEA.—It is not infrequently (*Va. Med. Monthly*) the case where small bits of iron or steel have been imbedded in the cornea—especially when they have come from a heated piece of metal—that after their removal the corneal wound shows no tendency to heal rapidly, and that the irritation and discomfort of the wound continue. According to Dr. John Dunn, Chief Clinic of the Richmond, Va., Eye, Ear and Throat Infirmary, examination of these wounds with artificial light will most frequently reveal at their bottom what at first sight appears to be small bits of the original foreign body. They are not so, however; but are either

small areas representing the action of oxidizing iron on the corneal tissue, or are partly burnt corneal tissue. These small areas act as foreign bodies, and the corneal wound shows little tendency to heal as long as they remain. Often, when the corneal wound is deep, they require considerable skill to detach them. At times they may be scraped away; while in other cases, after detaching them, they have to be cut off with a small pair of scissors. They should be carefully sought for after the extraction of every piece of steel.

THE SENSITIVENESS OF THE PERITONEUM.—T. R. Jessopp, F. R. C. S., Eng., sends a short but interesting communication to *The Lancet* on this subject, in which he says: "Having occasion, a few days ago to perform inguinal colotomy, I asked Mr. Moynihan, our resident surgical officer, to test the sensitiveness of the exposed peritoneum so soon as the patient should have completely recovered from the anæsthetic. Mr. Moynihan informs me that he pricked, scratched, and handled the exposed bowel (which appeared to be in no way altered from its normal condition), with the result that the patient declared her sensation was as if she were being "lightly touched with a feather." A similar result was obtained from like tests applied to the turned-up edge of the parietal peritoneum. At the same time the patient felt acutely the prick of a pin applied to the skin in the neighborhood of the wound and elsewhere."

The above is instructive when we bear in mind the extreme pain caused by acute inflammatory affections of this membrane.

UPRIGHT AND SLOPING WRITING.—The educational journals are beginning to discuss the question of vertical as against the old fashioned sloping writing. It will be fortunate if the result should be the introduction of the reform in our schools, fortunate not only for pupils, but for those who pursue clenical avocations after leaving school. The hygienic bearing of the question is most important. The *Boston Medical and Surgical Journal* recently remarked: "Mayer, as a result of the study of forty schools in Bavaria with over two thousand pupils, finds that with upright writing fifty-five per cent. of the children sat in a good position, whereas with sloping writing only five per cent. were found to do so. He finds that the better the position of the pupil the less the letters incline, and that if vertical writing is taught, children sit in a good position with far less trouble."

SCIENCE AND WOMEN. — Professor William James, of Harvard (*Med. and Surg. Reporter*,) announces that women develop early and then cease to grow mentally. Professor Crichton Browne, finds that women's brains are smaller than men's, and their frontal lobes less richly supplied with blood. Professor Lomprose finds that women are less sensitive than men, and as regards their receptive and perceptive organs represent an incompletely developed type. Altogether, science is bearing down very hard on the ladies. Yet we do not learn that they are becoming any the less popular. The poet has said metrically that without them the extremes of life would be without solace and its middle without joy. The testimony of the poet will probably continue to be received by the mass of human kind, even if the greatest cranial circumference of the gentler sex never rises above fifty centimeters.

TREATMENT OF LEAD COLIC BY LARGE DOSES OF OLIVE OIL.—Dr. Weil, Lyons, France (*La Semaine Medicale—Med. and Surg. Rep.*) has treated five cases of lead colic successfully with large dozes of olive oil. He administers a glass of the oil per diem, and in all the cases a cure was effected in three to five days, concluding with the appearance of copious stools, produced by the oil. But, before the stools, considerable diminution of the pains takes place, thus proving that, besides its action as a purgative, it exercises a certain analgesic effect upon the intestine. In one of the patients two glasses were rejected by the stomach, while the third produced an amelioration and a cure. Another patient, in whom belladonna and purgatives brought about no results, was relieved by the first glass of oil and cured by the fifth. In all the cases of plumbism the oil not only caused a disappearance of the colic, but also of the other symptoms—myalgias, arthralgias, cutaneous anæsthesia, headache and vertigo.

PERSONAL.—The profession at large will be glad to learn that the Pathological Society of Toronto expect the honor of entertaining in this city, some time in May, Prof. Hans Virchow, the son of

Prof. Rudolf Virchow, the famous father of Pathology, on whom the world's highest medical honors have already been bestowed. He is in this country on a visit to Chicago, and is expected to spend about a fortnight here. Due notice will be given in the dailies of the special meetings of the Society, at which Prof. Virchow, Prof. R. R. Wright, and others, will speak on subjects of interest to the profession.

APPLICATIONS FOR BURNS.—A German hospital surgeon recommends (*Munch. Med. Woch.*) the following:

℞—Linseed oil, ... ℥ iv.
Lime-water, ... ℥ iv.
Thymol, ... gr. vj.

Dissolve the thymol in the oil before adding the lime-water.

SCROTAL ECZEMA:

℞—Hydrarg. chlor. mit. . . . ʒ i.
Zinci oxidi, ... grs. xl.
Bismuthi subnit, ... ʒ ijs.
Lanolin, ... ℥ i.
Vaseline, ... ℥ js.—M. Ft. ungt.

Sig.—Wash the scrotum in hot borax water, and apply the ointment night and morning.

We owe an apology to our readers for the lateness of this issue. An accident occurring to the printing press has made it unavoidable.

Books and Pamphlets.

A PRACTICAL TREATISE ON DISEASES OF THE SKIN. By H. G. Piffard, A.M., M.D., Clinical Professor of Diseases of the Skin, University of the City of New York, Consulting Dermatologist to the Board of Health, etc. Assisted by Robt. M. Fuller, M.D., with fifty full page original plates and thirty-three illustrations. New York and London. D. Appleton & Company.

It is difficult for one not a specialist in this subject to criticise very intelligently a work such as this, but it is quite within the competency of any general practitioner to say whether or not he can derive any benefit from its perusal. The general impression given by reading this *edition de luxe* is one not so much critical as admiring. The plates and illustrations, including the photomicrographs, are admirable, done by artificial light, which has been found to lend itself better to the reproduction of minute detail than ordinary diffuse day light. The paper and binding are monuments of the bibliograpic art. As to the method and general plan of the work, the author has most skilfully and sensibly preserved the unities, to borrow a phrase of literary criticism. He has laid stress on disease common in this country, and left unusual ones to assume their proper place in the perspective of the needs of the American and Canadian practitioner. Eczema, acne, psorasis, vitiligo, epithelioma, lupus, are dealt with at due length, leprosy and rarer ailments being dismissed in shorter order, and the subject is introduced by a chapter on diagnosis, which for lucid common sense and simplicity, will be accepted with the heartiest thanks of any unfortunate who has been grappling with the cumbroussystem of classification prevalent in older and indeed in some recent works. The treatise does but add to the already often acknowledged indebtedness of the profession at large to the American School of Dermatologists as distinguished from those of Britain and the Continent.

A HANDBOOK OF DISEASES OF THE EYE, AND THEIR TREATMENT. By Henry K. Swansy, M.A., M.B., F.R.C.S.I., Surgeon to National Eye and Ear Infirmary, and Ophthalmic Surgeon Adelaide Hospital, Dublin, etc. Fourth edition, with illustrations. Philadelphia: P. Blakiston, Son & Co., 1012 Walnut Street.

The fourth edition of this most excellent and practical treatise upon diseases of the eye and their treatment has just been issued, and is considerably better than the former editions, which is saying a great deal, for Prof. Swansy has long been recognized as one of the foremost of ophthalmologists in Europe, and has compressed into his neat little work the result of many years of patient and practical research into the field of ophthalmology. This work is a general favorite, not only with students, for whom it is mainly intended, but also with practitioners, who will find within its covers a clear, concise exposition of all diseases of the eye. In an appendix, Holingren's Method for Testing the Color Sense has been described in greater detail than in the three previous editions, while several new illustrations have been added.

THE CANADA LANCET.

A MONTHLY JOURNAL OF

MEDICAL AND SURGICAL SCIENCE, CRITICISM AND NEWS.

Original Communications.

THE DIAGNOSIS OF LOBULAR PNEUMONIA (ACUTE AND CHRONIC) FROM TUBERCULOSIS.

BY—— SHAW, M.D., HAMILTON, ONT.

Broncho-pneumonia, the name now generally used by recent writers, is an inflammation of the bronchi and adjacent parenchymatous tissue of the lung.

It is common under five years of age. During the period of dentition it occurs with greatest frequency and is attended with the greatest fatality. After this age the lungs in children develop and begin to assume the adult type, and are then less subject to this form of pneumonia. It frequently follows bronchitis and the infectious diseases of childhood, particularly measles and whooping-cough. Other favoring causes are sudden changes of temperature and ill-nourished and poorly clad children living in badly ventilated houses. It often occurs, however, in healthy children. Briefly, it may be said if following a bronchitis, measles or whooping-cough, a child has an accession of high fever, with cough, rapid pulse and rapid breathing, with râles and blowing, breathing heard at the bases, and with or without limited areas of dulness, the diagnosis may safely indicate acute broncho-pneumonia.

If instead of resolution and a return to health the symptoms and physical signs continue for a few weeks the disease merges into a chronic condition, and the diagnosis as to whether the pneumonia is tuberculous or non-tuberculous in character is beset with many difficulties. I am not aware that the differential diagnosis has received much attention from the profession until recently, perhaps because tuberculosis in children beginning as an inflammation, was thought to be comparatively infrequent.

Of 500 autopsies in children reported last year from Munich Pathological Institute, in 150 tuberculosis was present, and in 92 per cent. of these cases the lungs were involved.

In an analysis of 247 cases of pulmonary tuberculosis in children, one was two weeks old, one six, one seven, fifteen from two to three months, seventeen from three to six months, forty from six to twelve months, sixty-six from one to two years, eighty-two from two to four years, thirty-nine from four to six years, forty-six from six to ten years, and twenty-two from ten to fourteen years.

Tuberculosis in children is more frequent than is generally supposed. A couple of years ago, I attended an infant aged two months in which I made a diagnosis of acute broncho-pneumonia. Later, the extreme emaciation, the persistency of the disease and the general appearance of the child, in connection with the family history, led me to regard the case as tuberculous. Death took place at the age of three months and four days. At that time one uncle and aunt were dead from phthisis. The child's grandmother died (from same cause) one month after its birth and the child's own mother and another uncle and aunt have since died from the same cause.

It seems highly probable that many such cases often diagnosed capillary bronchitis, or catarrhal pneumonia, would, with a careful enquiry into the antecedents and environments, be regarded as tuberculous. The source of infection is full of interest. In the Johns Hopkins Hospital Bulletin for last year a case is reported of a healthy infant nine weeks old with excellent family history, having been moved into a house where a phthisical patient, whose sputum was known to contain bacilli, had been living. The infant died, aged four months, and the post-mortem showed extensive tuberculous broncho-pneumonia with suppurative and caseous focci in the bronchial glands. In this instance it was thought highly probable that the child became infected in the house, where the phthisical patient had been living.

A study of the clinical type of the disease will be necessary in order that a correct diagnosis may be reached.

Jacobi in the Encyclopœdia of Diseases for Children gives three varieties:

I. Acute miliary tuberculosis of the lung.

II. Acute or subacute caseous pneumonia.

III. Chronic phthisis.

The first form is rare in children. Formerly it was thought that one of the most common changes in broncho-pneumonia, particularly in children, was caseation, but it is now considered a tuberculous process, and when it does happen it means either a preparation of the soil by a catarrhal process or a lowering of the tissue resistance so that the bacilli already existing in the bronchial nodes are enabled to develop.

Osler says tuberculous broncho-pneumonia most commonly follows the infectious diseases, particularly measles and whooping cough. He recognizes three groups: "In the first the child is taken ill suddenly while teething or during convalescence from fever, the temperature rises rapidly, the cough is severe, and there may be signs of consolidation at one or both apices with râles. Death may occur within a few days, and the lung shows areas of broncho-pneumonia, with perhaps here and there scattered, opaque, greyish nodules."

The second type is frequently met with, beginning as a broncho-pneumonia, following an attack of bronchitis or one of the infectious diseases already mentioned, and is attended with the well-recognized symptoms and signs of a severe inflammation of the lungs. Cough at first slight, becomes severe. There is increased temperature, rising to 103° and 104° or more, sometimes remitting in the morning. The respirations are frequent and superficial.

Auscultation gives moist, dry, crepitant and subcrepitant râles—tubular breathing is frequently heard and there may be limited areas of defective resonance on percussion.

I recall a case of this type of tuberculous broncho-pneumonia occurring in my practice in a girl three years old, who had had measles a few months before, and from which she had apparently made a satisfactory recovery. The sickness began with chills for a few days, with gradual rise in temperature. My attention at first was more directed to the fever, and not to the lungs until, after a few days' illness, when I diagnosed what seemed to be a simple broncho-pneumonia. The symptoms and signs were such as are usually found in these cases. Resolution did not take place. Perspirations became troublesome, the fever hectic, there were frequent attacks of dyspnœa, and the cough was severe. The persistency of the symptoms, the great loss of flesh following close upon an attack of measles, and having a bad family history, I, later, regarded the disease as tuberculous in character. Death took place at the end of six weeks.

Chronic phthisis is often preceded by impaired health, perhaps with often-repeated chills, or it may come on insidiously during convalescence from an infectious disease. There is moderate fever and loss of flesh. The cough is often overlooked. The symptoms may mitigate for a time, but physical examination shows the presence of râles and areas of defective resonance, and the case rapidly develops into that condition familiar to the profession as chronic phthisis. In acute cases it seems difficult from the symptoms and signs to make a positive diagnosis as few, if any, differential indications exist. Osler says: "The profession is gradually recognizing the fact that the majority of cases of broncho-pneumonia are tuberculous." The simple and tuberculous pneumonia, according to the same authority, perhaps, occur with equal frequency in the upper lobes, but the tuberculous form is more apt to invade the central portion, and the most marked dulness and signs may be areas corresponding to the roots of the lung.

Jacobi says: "Contrary to what we see in adults, in whom the tubucular deposits take place in the apices, the principal changes in the tuberculosis of children are often seen in the lower lobes because the frequent attacks of broncho-pneumonia which are apt to be starting-points of tuberculosis are more frequently observed in these lobes. If, as some suppose, infection is principally through the bronchial glands, one would naturally expect the existence of tuberculosis in children to occur frequently in the central portions corresponding to the root of the lung.

The physical signs are of little value in assisting with the diagnosis. The fever is of little value. The pneumonias following measles and whooping-cough are more frequently tuberculous than those after scarlatina and diphtheria. The existence of disease in the apices or central portion is suggestive, and softening may early be detected.

Careful enquiry should be made into the personal and family history of the child, at the same time it must not be forgotten that infection may occur in a perfectly healthy child.

In chronic phthisis there will usually not be much difficulty This case in time presents a clinical picture of ulcerative phthisis. The sputum should always be examined. It can often be found in the vomited portions of expectoration and the tubercle bacilli discovered. (The presence of these bacilli in the sputum is an infallible indication of tuberculosis.) In the acute forms it appears to be impossible to say whether the process is tuberculosus or not; we may surmise, but there is no certainty early in the disease.

Osler's *Practice of Medicine* says: "In many instances the decision whether an existing broncho-pneumonia is simple or tuberculous cannot be made as the circumstances under which the disease occurs, the mode of onset and the physical signs may be identical, and it is well to emphasize the fact that there are many cases of broncho-pneumonia in children which time alone enables us to distinguish from tuberculosis."

BACTERIOLOGICAL NOTES.

Microscopical Diagnosis of Tuberculosis.

BY E. B. SHUTTLEWORTH.

The examination of tuberculous sputum is an operation which every physician has now to frequently perform. It is not always, however, that the necessary details have been practically acquired, and, from the enquiries made of the writer, he is led to believe that a few remarks on the subject may not be unacceptable to young or inexperienced practitioners.

The demonstration of tubercle bacilli in sputum, without having recourse to staining, is a matter of some difficulty, and, for diagnostic purposes, may be at once dismissed. Of the twenty or more methods which have been recommended for staining, it may be said that, in experienced hands, and with proper attention to all the prescribed conditions, they afford fairly good results, but as a matter of fact, being based on the same principle, they may be regarded as modificatious of one general method.

It may be necessary to explain this. The bacilli of tuberculosis and leprosy, and the spores of micro-organisms generally, seem to have a thicker and more resistant cell-wall than other forms, or are in some way differently constituted and are not readily penetrated by ordinary stains. If by heat, or some other agent, a stain can be made to enter, it is firmly held, and will withstand attempts at withdrawal, or bleaching, which are quite effective when applied to other organisms. In other words the tubercle bacillus is difficult to stain, and, when stained, is difficult to decolorize. This affords a means of differentiation which has proved exceedingly valuable. The requirements are: a stain sufficiently powerful to penetrate the bacilli; a bleacher by which the surrounding tissue, mucus, or accompanying organisms may be deprived of color; and, to make a handsome specimen, and perhaps assist in the differentiation, a second stain, to tincture the decolorized part, so that the bacilli may appear more distinctly by contrast with the back-ground. This test, is not, of course, absolutely necessary, though it is probably easier to distinguish colored objects, say red, on a blue background, than when the latter is quite colorless.

Among the best primary stains are fuchsin and methyl violet; the penetrating power is imparted by the addition of alkali, aniline oil, or carbolic acid; and, among the decolorizers may be ranked the mineral acids. Of the so-called contrast stains one may choose blue or green for red, and brown or green for violet. Of these materials the preference is with fuchsin and carbolic acid = Ziehl's carbol-fuchsin; hydrochloric acid and alcohol for a bleacher; and methylene blue for contrast.

Carbol-fuchsin solution can be easily made by dissolving ten grains of fuchsin in two fl. drachms of alcohol, and adding to this two fl. ounces of a saturated aqueous solution of carbolic acid. If this is not clear, a few drops more alcohol may be used. Another ready way to make the stain is to add to the aqueous carbolic acid solution as much of a saturated alcoholic solution of fuchsin as may be necessary to give a bronzed appearance to a drop of the mixture which has been allowed to remain for a few moments on a piece of glass. The decolorizer consists of a three per cent. alcoholic solution of hydrochloric acid. The contrast stain is a saturated aqueous solution of methylene blue.

Care should be exercised in the selection of sputum for examination. That expectorated early in the morning is best. A little may be poured on a piece of black glass (or clear glass on a black surface)

and carefully searched with a needle or platinum wire loop for caseous or solid looking particles. These are to be picked out, as free from mucus as possible, and put on a cover glass. Another cover is put over this and the two worked gently together, between the finger and thumb, so that the material may be crushed and evenly distributed. The covers are now slid apart, and allowed to dry, at the air temperature. The coating is then to be fixed, so that it may not be removed by the subsequent operations of staining and washing. This may be done by taking one of the covers between the finger and thumb, and holding it horizontally, coated side up, over a flame, testing it from time to time by putting it in contact with the back of the left hand. It should not be so hot as to occasion pain. The usual plan is, however, to take up the cover with forceps, and pass it three times through the flame of an alcohol lamp, or Bunsen, counting one, two, three, rather slowly—say, taking up two seconds in all. The heat should not be such as to burn or discolor the film.

A few drops of Ziehl's solution are now to be applied; the cover being held over the lamp until steam is observed near the surface, and then withdrawn, the operation being repeated three times, with intervals of about a minute between the steams. The specimen is now ready for decolorization, which is effected by washing with a gentle stream of water, (a spritz is very handy) and then treating with a few drops of the hydrochloric acid solution, and repeating the dose until the red color has disappeared. The acid is then removed by water, and a few drops of methylene blue put on. After a minute or so this may be removed by water, and the cover dried by putting it, film side up, on a piece of blotting paper, and folding over one thickness, passing the finger lightly over the surface. If a permanent preparation is desired, the cover should be very gently warmed, or allowed a few minutes to become thoroughly dry, and then attached to a slide by a drop of balsam. If for mere examination, a drop of water will be all that is required. It is to be understood that all the operations of staining and washing are to be performed while the cover is held horizontally by the forceps. For this purpose those of the Cernet pattern will be found a comfort.

The bacilli will, of course, be red on a blue ground. The microscopic examination must be careful and thorough and should not be hurried. It is well to examine at least three cover-glass preparations before forming conclusions. As far as power is concerned there is no doubt but a one-twelfth inch oil immersion lens will give the most satisfactory results, and is indeed indispensable for almost any kind of bacteriological work. For this purpose a one-eighth dry objective will, however, answer very nicely, and even a one-fourth inch can be used. The bacilli, if well stained, are visible with a good lens of seven-tenths, with a strong ocular, as it is a case of differentiation of color more than form. A one-fourth inch, with a medium eye-piece, is as low a power as can be safely employed, even in experienced hands.

INTRA-CRANIAL NEURECTOMY OF THE SECOND AND THIRD DIVISIONS OF THE FIFTH NERVE IMMEDIATELY IN FRONT OF THE GASSERIAN GANGLION.

BY JOHN B. ROBERTS, M.D.

I report this case partly on account of its novelty and partly on account of the apparent success of the operation. The patient is a man seventy-six years of age, on whom I operated about two years ago for frightful neuralgia, which affected the first and second branches of the fifth cranial nerve. He had been operated on previously without success. I removed the supra-orbital and infra-orbital nerves at their anterior foramina, chiselling away the lower part of the orbit in order to tear off the latter nerve as far back as possible. He had a period of comfort for perhaps a year, when the disease returned. He was then operated on, I think, by Dr. John B. Deaver. I do not know what Dr. Deaver did, but I believe that he cut out the cicatrix. The man came to see me again a year ago, and I decided to ligate the primitive carotid, which has been recommended in some of these cases, and which I had found satisfactory in a case operated on six months previously. I operated last November, tying the primitive carotid with catgut. He was discharged at the end of three weeks suffering no pain.

He again began to suffer and has appeared at my office two or three times in the last three or four months. His pain was so great that I de-

cided to attempt the removal of the Gasserian ganglion. I had long made up my mind that the route advised by Rose, of England, of cutting away the coronary process of the lower jaw and the zygoma, and trephining from below, was an operation of great severity; and although he has reported several cases of cure, I had about made up my mind that I would not try it. In March of this year I saw the description of the operation proposed by Hartley, of New York, which is somewhat similar to that of Horsley. An opening is made by Horsley in the temporal region, the dura mater opened, and by getting under the temporal lobe, the fifth nerve is cut off at the pons and the ganglion also removed. The case on which this operation was done, died. When I saw Hartley's operation described, it seemed to me that it presented the better method, and I determined that I would adopt it in a case where such operation was indicated.

Four days ago I made an omega-shaped incision, beginning at the external angular process of the left side, ascending to the temporal ridge and coming down at the tragus. With a sharp chisel I cut through bone in the same line; above, going down to the dura mater, but below through to the diploë only. With a lever the bone, muscle, and integument were turned down over the zygoma as an osteo-cutaneous flap. This exposed the dura mater and the middle meningeal artery. The trunk of the artery was not torn because it ran in a groove and not in a foramen at the angle of the parietal bone. A small opening in an upper branch was bleeding, and was secured by two sutures passed above and below the opening. The dura mater was separated from the base of the skull and the foramen rotundum exposed. I was surprised at the ease with which I could press the brain over to the right to make room for my manipulations. As I pressed upon the brain the man's left hand—that is, on the same side as the operation—went into a state of tonic contraction or spasm, which disappeared as soon as the extreme pressure was stopped. With a tenotome I cut off the second division of the fifth nerve, which was the one that gave pain, close to the round foramen, and endeavored to follow it back to the ganglion. I was unwise in using a blunt pointed tenotome, dissecting backward along the nerve, for before I got through the dura I cut or tore the nerve off close to its attachment to the ganglion. This made me lose my landmarks, and I could no longer trace my way back by holding on to the nerve with forceps. I then cut off the third division at the oval foramen, and again made the attempt to dissect up to the ganglion, but practically the same thing happened. During this time there was a good deal of bleeding, probably from the petrosal sinus, but by changing the position of the patient's head the blood did not obscure the field, and with the electric light and head-mirror, I had a good view. After spending considerable time I concluded, after consultation with my colleagues, that I had probably done enough, without uncovering and removing the Gasserian ganglion. I had excised the painful nerve (the second division) from close in front of the ganglion to the round foramen, and had pushed the distal end of the nerve forward into the canal. I had also excised the third division from the Gasserian ganglion to the oval foramen and pushed the distal stump into its canal in the same manner. The flaccidity of the dura rendered it a little difficult to cut through the layer covering the ganglion with accuracy. The use of a uterine tenaculum to make the dura tense would probably have helped me.

I allowed the brain to come back into place, shut down the lid of bone, and sutured the skin, using no drainage. The eyelids of the left eye had been sewed together before the operation lest corneitis might develop after removal of the ganglion.

The patient has done so extraordinarily well that I can hardly believe it myself. He has not had a bad symptom; there has been no paralysis, no aphasia, and he has needed no anodyne. This is the fourth day. The pulse is 72, respiration 17, and temperature 98.4°. There has been no neuralgic pain. He has the same "queer" sensation in the infra-orbital region which he had after ligation of the carotid artery, and which soon disappeared. On the second day I found him slightly propped up in bed reading the paper. He catheterizes himself three or four times a day, being the subject of old bladder disease, and is doing perfectly well. The portions of the nerves removed are shown in the bottle which I have passed round.

NOTE—It is now eighteen days since the operation, and the wound is entirely healed by first intention. The man is well, except that he com-

plains of headache. This is probably due to the aseptic cerebral inflammation at the seat of traumatism. He is up, goes out, and has normal respiration, pulse, and temperature. He reads, talks, and seems the same as before operation, except that he is relieved of the torturing neuralgic pain, and has the dull headache. He complains of an "ugly" feeling at times in the cheek. It is not at all the pain he had previously. After this report was written it was noticed that he could not recall the names of the city streets and of the physicians. This was probably an aphasic symptom, and it is now improving, being scarcely noticeable.

A SUCCESSFUL METHOD OF TREATING FOLLICULAR TONSILLITIS.

BY JUNIUS C. HOAG, M.D., CHICAGO.

Among the forms of disease most familiar to the physician is that of follicular or lacunar tonsillitis. The symptoms and anatomical features of tonsillitis in general are well known to all. The special chracteristics of the follicular form is the presence of cheesy masses which fill up the follicles of the tonsil and projecting upon the surface of the gland give it a punctated appearance. This feature of the disease may, indeed, be marked by the formation of a pellicle composed of the same material as that which fills the follicles and which may simulate the membrane of diphtheria; but the removal of this pellicle, which is easily accomplished, will generally enable one to make the correct diagnosis.

The differentiation of follicular tonsillitis from diphtheria may occasionally be attended with difficulties, but it is certainly not so as a rule; and yet we know that many physicians habitually inform their patients that they are suffering from diphtheria when in truth it is merely a question of tonsillitis. To this fact, doubtless, many of the marvelous cures of diphtheria may be ascribed.

To my mind the most remarkable feature of follicular tonsillitis is the disproportion generally witnessed between the comparatively innocent appearance of the tonsil and the comparative severity of the constitutional symptoms. But a few years ago I made an observation which to me seems equally remarkable and one that possesses very important bearings. This observation contains the kernel of my present remarks, and is this:—The removal of the cheesy plugs which occlude the lacunae and follicules of the tonsils is uniformly followed by a very marked amelioration of all the symptoms of the disease.

The material which accumulates in the lucunae consists of masses of fibrinous lymph, mucus and epithelial cells swarming with micrococci, the commonest form being a streptococcus. My explanation of the severity of the symptoms of the disease is that a toxemia is produced; and conversely the removal of the source of the poisoning results in prompt relief to the patient.

My treatment is easily described. When I find a patient with the high fever and sore throat of follicular tonsillitis, I spend fifteen or twenty minutes in removing the exudate of the tonsils. I do this with the aid of three little instruments, viz: a small spoon such as is used in clearing out the meatus of the ear, an ordinary silver probe wrapped with a small piece of absorbent cotton dipped in peroxide of hydrogen, and a small forceps with which to seize sticky masses not easiiy removable with the other instruments. My usual directions are to make frequent applications of peroxide of hydrogen to the tonsils by means of a brush, in addition to which I direct the use of the ordinary gargles and appropriate constitutional treatment. But my main reliance is in the topical treatment as described and after a single séance with the patient I confidently expect to find a very marked improvement within a few hours and am rarely disappointed therein. This treatment is usually repeated once or twice.

I have treated many patients in this manner and have been greatly satisfied with the results obtained. Recently I have looked over as much of the literature of the subject as was conveniently accessible and failed to find any similar treatment described. By my method I am convinced that I am enabled to shorten the duration of the disease very materially; indeed my patients get well in half the time required by former treatment. I therefore recommend this procedure to you in full confidence that you will be pleased with it.

It is reported that Professor Koch's wife has obtained a divorce from her husband. The Professor is said to be *epris* of a young actress, whom he shortly intends to marry.

Selected Articles.

SOME CASES OF CHRONIC TUMOR OF THE BREAST.

GENTLEMEN,—Some of you may perhaps recollect having seen me remove about a fortnight ago a small tumor from the breast of a patient in the Cholmondeley ward, who was about forty years of age. At first sight there appeared to be nothing very interesting about the case. The tumor was a small mass which lay in the substance of the left breast, where it had been discovered quite by accident several months before; no notice had been taken of the matter until a month before the patient's admission, when it had commenced very distinctly to increase in size. The removal of the little lump proved to be rather more difficult than it originally seemed likely to be, because it was closely connected with the breast tissue about it, although before removal it seemed to be perfectly loose, as it rolled about, apparently just beneath the skin. In removing it, not only was it necessary to cut through a thickish layer of breast tissue, but in consequence of a hard process which passed from the tumor into the adjacent part of the breast some of the latter structure had to be taken away with it. The wound was sewn up with horse-hair in the ordinary way, and the patient recovered in a few days. The tumor proved upon examination to be an adeno-fibroma, that is to say, it was partly composed of gland tissue, resembling to some extent the mammary gland itself, and partly of fibrous tissue, the latter being greatly in excess. The tumor possessed, however, one peculiarity—viz., that the most recent part of it, that part, in fact, to which its increase in size had obviously been due, presented characteristics hardly distinguishable from sarcoma: a condition which, had I recognized it at the time of the operation, would certainly have led me to remove the whole breast instead of performing the partial operation.

As a contrast to the above let me mention a case upon which I have recently operated in private practice. As a rule I avoid mentioning in these lectures cases which occur in private practice because I think it is better in a general way to refer only to those occurring in the hospital wards, which some at least of you have seen; but this particular case is such a good contrast to the other that I will briefly describe it.

The patient was a lady about forty years of age. She had a tumor apparently precisely similar to the one already mentioned so far as the external aspect was concerned; the mass was hard, elastic, somewhat irregular in shape and rolled about under the skin. In the removal of this tumor no breast tissue was incised, for upon cutting through the skin nothing lay over the mass but a thin layer of fibrous tissue, which formed, in point of fact, the capsule in which it was. Upon opening this capsule and making a little pressure the tumor slipped out, as it was not at all connected with the breast itself and indeed was perfectly free save that it was anchored to the bottom of the capsule by a single strand of fibrous tissue. This tumor proved to be an adenoma—that is to say, it was composed almost entirely of glandular tissue, closely resembling the mammary gland itself. The absence of any direct connection between this tumor and the breast and the great preponderance of gland tissue are the two points in which it contrasts so strongly with the mass in the other case. These tumors, the adeno-fibromata and the adenomata, are classed as innocent and harmless growths, and harmless enough they may in themselves be, provided that no evil change comes over them. As a rule they are discovered by the patient quite accidently, so that the time during which they have been in existence is generally doubtful. They may remain unchanged in size for years, causing no inconvenience, excepting, perhaps, at the menstrual epochs, when they may temporarily swell a little and become sensitive, participating, in fact, at such times in the general condition of the mamma itself. Usually if a patient consults a practitioner about a tumor of this kind she is told that so long as no increase in size or discomfort occur no anxiety need be felt, and she is advised to leave the "lump" to itself unless some change occurs in it. This advice is, I believe, the worst that the patient can be offered, for reasons which I hope I shall be able to make plain presently. It is, I suppose, hardly necessary to remind you that these growths never arrive at a perfect state of natural development. However pure the adenoma may be, you may be absolutely certain that it will never reach the perfect type of developement attained by the mammary gland. This fact applies even more forcibly in the case of the adeno-fibromata, which never arrive at anything at all approaching the perfect type. Following upon this comes another fact which is undeniable—viz., that whenever a tissue found in any part of the body (especially if connected with the secreting glands) is foreign to the part in which it lies—as these tumors are, for instance, foreign to the natural breast—and does not arrive at a perfect state of development, this abnormal tissue is more liable to degenerate and tends more to erratic growth than any structure of a perfectly normal type. In other words, these tumors occurring in connection with the normal breast are more liable to degenerate and change their shape and character erratically than the breast itself, mainly because they are imperfectly developed and have an unfortunate inclination, like all products of this kind, to revert to a certain extent to the embryonic type in their growth. Granting these points, as may safely be done, we come to another stage of the

question. Malignant disease, carcinoma or sarcoma, is unhappily common in the female breast, and you are aware that its occurrence is generally supposed to be, to some extent, influenced by hereditary causes. I know that this point is, to a certain degree, disputed by some; but at least, we generally understand that, all other things being equal, a person having ancestors who have suffered from cancer is more likely to be afflicted with that disease than one whose progenitors have been perfectly free from the cancer taint. So far we may go without much fear of contradition. Now, these mammary tumors, whether they be of the nature of an adeno-fibroma or pure adenoma or any other growth of an originally innocent kind, constitute really (if what I have said about their defective development is true) weak points in the mammary apparatus. Seeing how prone the mammary gland is to become the seat of malignant disease, it follows logically that a patient who has in the mammary gland a tumor of this sort would be more likely to suffer from malignant disease than one whose breast is normal, because of the existence in the mammary apparatus of a weak point, more liable to retrogress, more liable to change and erratic growth than the healthy gland itself. Again we may go still further and say, if what has been already stated is correct that a person having a chronic mammary tumor, however innocent it may in itself be, whose ancestors have exhibited the cancer taint, would be more likely to suffer from malignant disease than one who had no such tumor. Further, it ought to follow almost as a matter of course that if malignant disease should attack the breast of a patient who has one of these tumors the disease should begin in the tumor and not in the healthy breast tissue; that the tumour would, in fact, form the centre for the malignant growth. These views, although in the main, I believe, correct, are not quite in accordance with the teaching of the text-books. There is another point of interest in connection with these tumours upon which the books are, I venture to think, somewhat misleading. Upon consulting some of the text-books in common use you will I think, find that the adeno-fibromata, the ardeno-sarcomata and the adeno-cystomata are described as entirely distinct and different growths, without any reference to the possibility of the sarcomatous forms being simply produced by changes occurring in the adenomata or adeno-fibromata. That the change from the benign to the malignant form of growth is not uncommon I have, however, no doubt. Amongst the cases of tumors of the breast upon which I have operated during the past two years there were five in which the growths were small and had all the characteristics before operation of adeno-fibromata. In each of these cases there had existed without change for a long period a chronic mammary tumor, which shortly before the operation had commenced to grow. In three of the cases the tumors proved to be sarcomatous, one was scirrhus and one was "duct" cancer, while in each there was clear evidence that the original growth had been an adeno-fibroma, which formed the soil in which the malignant disease had started.

The last of the cases occurred only a week since and is so characteristic that it is perhaps worth relating. The patient was a lady forty-three years old, who seven years ago discovered quite by accident a small "lump" in the right breast. Having thus discovered it, she, as is the custom with many patients, carefully at first concealed the fact of its existence. No increase of size or discomfort occured, but untimately she consulted a physician, who told her that the swelling was not in itself serious, but that, on the whole, it would be better at some convenient time to have it removed, and further, that if it showed the least inclination to increase removal should at once be undertaken. She did nothing more in the matter till three years later, when she was confined of a child. The swelling then became sensitive, and she consulted the accoucheur in attendance, who advised her to leave the tumour entirely alone, unless it grew larger. This advice she readily took. Three years afterwards the increase in size commenced, and, still reluctant to have anything done, she allowed the growth to continue until a fortnight before I operated, when she consulted the physician to whom she originally went and was told to submit to operation without delay. Upon removing the tumor, which lay in a well-marked capsule and was attached to the breast at one point only, I found it was clearly an adeno-fibroma, but in its centre was a rounded mass of softish material, to which the increase in size had been manifestly due. This semi-gelatinous material proved to be a "spindle-celled" sarcoma and was on all sides surrounded by a layer of tissue identical in structure with that of a benign adeno-fibroma. At one point the sarcoma was creeping towards the surface, and over this part the benign structure was so thin as to be hardly perceptible. The breast around showed no actual sign of disease, but as it was somewhat hard, and as a small hard gland could be felt in the axilla, I thought it better to take away the whole mamma. In this case I think there cannot be any doubt that the tumor had only recently become sarcomatous. The chronic mammary tumor, in fact, represented a weak point in the breast, and irritation of some kind, produced probably during the time of suckling, affected the nutrition of the tumor in such a way that it began to grow erratically, a sarcomatous change in it being the result. If the patient had not been the subject of a chronic mammary tumor it is in my opinion nearly certain that she would not have developed any malignant growth, for this disease as clearly as possible origin-

ated in the tumor. I also believe that had the tumor been removed when it was first discovered —that is to say, before the existence of any tendency to change in it—the patient would not have suffered from sarcoma at all. There is a tradition which is still fostered by the teaching of some of the text-books that these chronic mammary tumors (adenoma and adeno-fibroma) tend to shrink and sometimes entirely disappear during lactation. I do not know upon what evidence this teaching is based ; I have seen a great deal of this class of mammary tumor before, during and after lactation, and I can with all truth say that I have never seen a tumor which I had good reasons for believing to be an adenoma or adeno-fibroma show the least inclination to shrink, to say nothing of disappearing altogether. I have, however, seen such tumors increase rapidly during the suckling period, and I have seen without doubt, a simple adenoma-fibroma become malignant under similar circumstances. Chronic mammary *indurations* sometimes shrink and disappear during lactation, especially after the first parturition, but I do not believe that the true chronic mammary tumor ever disappears in this way, nor can I regard it as pathologically likely that it would do so, as the tendency after irritation would surely be towards growth rather than shrinkage.

I have mentioned in the description of one of the cases, to which I have just called your attention, that there was a hard, oval, enlarged gland in the axilla. This gland was not merely enlarged in consequence of irritation, but was affected by sarcoma of the same kind as the disease in the breast. Not long ago I saw another instance of the same kind. Incidentally the existence of these secondary sarcomatous glands is of some interest ; for it will show you that you must not rely too implicitly upon the occurrence of secondary enlargement of the glands in tumors of the breast as a symptom of carcinoma as distinguished from sarcoma, although it is, I believe, pretty generally taught that secondary disease of the glands is pathognomonic of carcinoma.

If you have followed by remarks upon the subject of these chronic mammory tumors generally, you can easily anticipate my recommendations as to their treatment. I have no doubt whatever that the proper course to follow upon the discovery of one of these tumors is to urge its immediate removal. The operation is in itself trifling, the patient need hardly be confined to bed at all, and the resulting scar is so small that it is almost imperceptible. Thus by a trifling proceeding which is entirely without risk you can rid your patient of a structure which is abnormal and which by reason of its imperfect development is prone to become the seat of a malignant disease. To advise patients, as is so commonly done, to leave these tumors alone until they show signs of growth is in my opinion wrong from every point of view unless some special or unfavorable reason exists for such advice, for by so doing you will, I believe, condemn a certain number of women to be afflicted with malignant disease who would, if the removal of these tumors were undertaken immediately upon their discovery, escape the more serious affection altogether. Should the treatment of the tumor in any case be postponed until increase in size has commenced it is clear that an operation for its removal should be performed at once. The question then arises as to whether mere removal of the tumor only, the breast being left undisturbed, is sufficient, or whether the whole breast itself should be taken away. If there are no enlarged glands in the axilla this point can only be decided after the tumor has been laid open, when, if it appears that the increase of size has been due, as in one of the cases I have related to you, to the accession of new growth in or about the original tumor, the whole breast should undoubtedly be taken away. If, on the other hand, the increase seems to be due merely to a uniform growth of the primary tumor, the consistence and appearance of which remain the same throughout, then the operator may be content with the removal of the tumor only, at all events until the excised tissue has been submitted to microscopical examination. When enlarged glands exist in the axilla on the affected side—the opposite axilla being free—the whole breast should at once be extirpated.

In conclusion, let me warn you against the use, in these cases of *chronic mammary tumors* properly so called (I do not mean *chronic mammary indurations*), of the many liniments so much beloved by some practitioners, for I assure you they stimulate growth more than they promote absorption. If, for reasons which seem sufficient, it is decided in any given case to defer operation or to set it aside altogether, let me beg of you not to worry a structure, which is already inclined to grow, by irritating medicaments into unnatural activity, but to leave it entirely alone, in the true sense of the word, and — a thing which is most difficult— endeavor as far as possible to make the patient do the same.—Clinical lecture by W. H. Bennet, F. R.C.S., in *Lancet*.

THE PREVENTION OF HEART-FAILURE IN ACUTE FEBRILE DISEASES.

There is a lack of good remedies to meet the indications furnished by the weak heart in pneumonia and in febrile diseases generally.

Take, for instance, the case of simple fibrinous pneumonia occurring in an elderly man of not average robustness, or in a delicate, feeble woman. No prudent physician would think of prescribing depleting medicines here ; veratrum viride would

be regarded as of questionable utility, and antimony would be altogether eschewed. But what remedies should be chosen? Shall any be given? The present tendency is to be shy of large doses of powerful drugs; the practitioner feels safe in prescribing nitre and ammonia, in ordering milk and other liquid nourishment, "to support the strength." In many cases of impeded respiration oxygen is certainly of extraordinary utility, both from its relief to the pulmonary functions and from its general tonic effects. Shall one on the other hand, prescribe whiskey or brandy, or trust to "expectancy"? It cannot be said that there is perfect agreement among the best representatives of medicine to-day as to the reply which should in all circumstances be given to that question.

In the supposed case of pneumonia, one quite large class of practitioners would consider the alcoholic treatment indispensable. Granting the fact of a rather feeble pulse—a diminution in the force of the heart's systole and impulse, a considerably increased frequency of its beats—the physician of this class would early in the sickness give wine or spirits every two or three hours. Here, he would say, is a case where the danger comes from heart-failure. If we support the heart all through the sickness, will it not be more likely to stand the strain of the crisis about the end of the first week? For this reason alcohol is given, and often digitalis; the latter remedy has the disadvantage of being a vaso-constrictor and of augmenting the resistance in the arterioles and capillaries. On the other hund, the opponents of the alcoholic medication point with triumph to the relatively small mortality which attends a treatment of which alcoholic stimulants constitute but a very insignificant part. They affirm that alcohol further poisons the blood, already poisoned by the toxines of the pneumococcus, and if given heroically may paralyze instead of toning and strengthening the heart. They challenge the proof that a weak heart, however well "supported" by an alcoholic regimen from the commencement of the sickness, bears up exceptionally well under the struggle. How many sink under the most heroic stimulation!

There is doubtless some truth in this presentation of the case, although it should not be forgotten that it is the worst cases which are apt to be given the most alcoholic stimulation. A feeble heart under the stimulus of blood charged with alcohol, may for several days display unusual activity. The physician may be lulled into a sense of security about his patient who, under the influence of frequent spirit-potions is supposed to be doing finely, when all at once, about the eighth day, a "rattling in the chest," coma-vigil and collapse appear! Doubtless the weak heart has sometimes been whipped into preternatural energy by alcohol, only to be exhausted just when its full functional integrity and vigor was most needed.

The opponents of the alcoholic medication *à l'outrance*, while affirming that such results as are above depicted are not uncommon (and here possibly the argument is based more on theoretical considerations than on any exact scientific inductions), still claim that a moderate and judicious use of wine or brandy about the epoch of crisis, to produce a temporary effect and to brace up the heart at the time when a few hours will decide the question of recovery or death, is both rational, and in accordance with sound experience.

The same has been said *pro* and *con* in reference to the treatment of typhoid fever. Some would give alcohol rather freely from the first (not even excepting mild cases which are stimulated with the view of supporting the heart). Others are very chary in prescribing alcohol, and only order stimulants when symptoms of sinking threaten, and then for a temporary effect.

It is not yet absolutely determined that the long continuance of rather small doses of alcohol in fevers (half an ounce of whiskey every two or three hours, or an ounce of wine) to feeble, adult patients is in any sense *harmful*; or do we really know the amount of *benefit, if any*, which is derived from such doses. This is a matter which can only be determined, if ever, by large clinical experience, an experience embodying cases (occurring under similar conditions) that have been treated both with and without alcohol.

With regard to digitalis, we think that very many practitioners have come, with Osler, to regard the administration of this remedy to prevent falling heart in pneumonia and in fevers as of doubtful utility. The same may be said of caffeine, which when given subcutaneously with benzoate of soda, is thought by certain French authorities to be of marvellous efficacy in threatening heart-failure. It is certain that the experience of those who think that they have almost seen the dead restored to life by these injections, has not been the common experience of physicians in this country who in desperate cases of sinking and collapse have resorted to this remedy. Nor has nitro-glycerine, strophanthus, or any of the other modern heart-tonics won their way to general acceptance as trustworthy remedies against heart-failure in acute febrile diseases not primarily cardiac.

It may be contended that much can be gained by the judicious use of certain vaso dilating remedies which lighten the work of the heart by lessening peripheral resistances. In this way, writers have affirmed that veratrum has done good in pneumonia, even in the aged and feeble, that is, by relaxing the arterioles. This claim does not seem to have been positively substantiated. Similar vaso-dilator effects have been claimed for the nitrites, for belladonna, opium and gelsemium in small doses in prostrating fevers; and there is

reason to believe that alcohol (so much misunderstood and abused) when given in suitable moderation, so as not to exceed the healthy physiological mean, may be beneficial in febrile complaints, not by exciting the heart, but by calming it and diminishing its work by opening up more completely the capillary sluiceways.—Ed. in *Boston Med. & Surg. Jour.*

UTERINE HÆMORRHAGE.

Few symptoms may arise from a greater variety of causes than uterine hæmorrhage, and whilst sometimes it may be of comparatively small importance, at other times it may have the gravest significance. It should therefore never be disregarged or treated lightly till the reason for it has been satisfactorily ascertained, or, at all events, till every effort has been made to determine its cause. It may be said that these are merely general principles such as are acted upon by every earnest practitioner in every department of medicine—that, in fact, this is merely another way of saying that diagnosis should precede treatment; and this is true up to a certain point. For instance, to take as an example a common symptom, such as diarrhœa, it is obvious that all practitioners having excluded the more serious diseases likely to cause the condition, must at times be content to prescribe for it without always being able to say positively to what it may be due. We have not taken this symptom by any means at random. Indeed, within our knowledge a case occurred even in hospital practice in which a patient was treated for simple diarrhœa for twelve months by various astringent mixtures without benefit. At last, when a local examination was made, a large gall-stone was found partially embeded in the recto-vaginal septum. In this instance the fact that treatment had preceded diagnosis had not done the patient any great harm; but there are special circumstances, unfortunately, in the case of metrorrhagia which not infrequently lead to the most lamentable consequences to the patient unless accurate diagnosis be made the first consideration. For instance, there is the knowledge on the part of the medical attendant that many patients are exceedingly unwilling to submit to examination, and therefore a natural disinclination on his part to urge upon them a course that would certainly be unpleasant, and might afterwards prove to have been unnecessary. Then, again, there may sometimes be a doubt in the practitioner's mind whether, after obtaining the patient's consent, the result of the examination would be as conclusive as could be wished. For these reasons the practitioner may be inclined to think there can be no harm in waiting for a little time, and trying the effect of the various medicines reputed to be useful in the treatment of metrorrhagia before determining upon a thorough investigation of the case. Yet it is scarcely possible to insist too strongly on the fact that a certain proportion of women who suffer from losses of blood, or a blood-stained discharge between the menstrual periods are suffering from cancer of the uterus, and the responsibility rests with those in attendance to make sure, as far as possible, that a case with this symptom is not a case of cancer before proceeding to treat it by simple remedies such as ergot or hamamelis. If this were borne in mind a larger proportion of cases than at present would be seen in time for operative treatment to have a fair chance of success. There are some popular fallacies, as our readers are well aware, prevailing amongst women themselves with regard to this subject. For instance, there is the notion that pain is invariably associated with cancer, and that consequently so long as there is no pain they may safely assume that their ailment, whatever it may be, is not, at all events, cancer. Similarly, even a larger class of patients erroneously fancy they must be the victims of cancer because they suffer pain. The fact of course is that, as regards cancer of the cervix, pain does not generally accur till a late period in the case, when the disease has reached an advanced stage and satisfactory treatment by operation has become impossible. It is true that in cases of primary cancer of the body of the uterus pain is often an early symptom, but, as is well known, in by far the largest number of such cases, the disease begins in the cervix, and here what has been said above applies. Another erroneous prevailing impression is, that the disease is necessarily one of advanced life. Now, whilst this is so as regards primary cancer of the body of the uterus, it is certainly not so as regards the cervix. We not rarely meet with cases of the latter class between the ages of twenty-five and thirty, and after thirty they become comparatively common. Again, we must not lose sight of the fact that there is not infrequently some misapprehension as to there necessarily being an offensive discharge in cases of cancer. Such a discharge is practically always present sooner or later, but it is usually later; the point to be remembered is that in many early cases of cancer of the uterus the discharge is not at all offensive. This applies to both classes of cases. The absence of an offensive discharge must not for a moment be taken as warranting a conclusion that the patient is not suffering from cancer. On the other hand, whilst there is almost always an offensive discharge at some period or other in cases of cancer, an offensive discharge does not of course by itself warrant a diagnosis of cancer.

All whose practice deals more especially with the diseases peculiar to women have doubtless seen cases of advanced uterine cancer where valu-

able time has been lost in unavailing treatment by internal remedies and the use of some simple vaginal douche. In some of these cases perhaps no examination whatever may have been made. Great advances, however, have been made of late years in the diagnosis of cancer, and so far as the profession itself is concerned there is a more general recognition of the significance of intermenstrual hæmorrhages. Now, whilst any intermenstrual hæmorrhage should excite a suspicion that there may be something seriously amiss, and lead to a thorough investigation, it is not too much to say that hæmorrhage after the menopause is generally due to cancer. There are, of course, exceptions to this as to most other rules, but the safest plan is to regard any case of hæmorrhage after the menopause as possibly due to cancer till an examination has been made. Even if no evidence of anything abnormal is discovered by an ordinary vaginal examination, it should not be forgotten that the disease may be beginning in the supra-vaginal cervix, or even in the body of the uterus, and certainly the persistence of a sanious discharge should lead to a further investigation—that is to say, the cervix should be dilated, so that the condition of the supra-vaginal cervix, and of the interior of the body of the uterus, may be ascertained.—Ed. in *Lancet*.

PRECAUTIONS AGAINST CHOLERA.

The *Therapeutische Monatshefte* has published the following rules issued by the Imperial Bureau for the benefit of the German people. The advice is certainly wise and minutely given, and shows the paternal care of the government.

1. Keep your presence of mind in the danger; avoid too great anxiety, for it clouds your clear judgment. Only the man who thinks clearly can make proper use of the precautions against danger.

Maintain cleanliness in your person and surroundings. Discretion, temperance, precise cleanliness, prove the best protection against disease.

Hold firmly to your ordinary regular mode of life. Avoid festivities and assemblages of people.

Avoid medicines as long as you are well.

Visit the sick only when your duty calls you.

Avoid intercourse and close contact with persons who come from cholera regions.

Do not leave your home in order to escape the disease. Consider that you may be in greater danger in travelling, and living under altered conconditions in a strange place, than while leading a careful, regular life at home.

2. Do not put other objects besides food and drink in your mouth—*e. g.*—the fingers in turning through a book, pen holders, lead pencils, etc.

Drink as little water as possible, and only such as you know to be above suspicion.

Pure spring water is, as a rule, unsuspicious. Water from deep pipe wells, and from closed pipes, if taken from open waters, such as have been subjected to a genuine filtering, is safe. (Small house filters, unless frequently changed or cleaned, are rather harmful than useful.)

Water from rivers, ditches, ponds, flat, open or poorly-covered springs, also from springs which are near dirt or dung sites, is suspicious during cholera epidemics. All washing and rinsing, as well as pouring out of dirty water near springs, may be dangerous to health.

Suspicious water during the prevalence of, or near cholera, is only safe to use for drinking, washing the face, rinsing the mouth, washing utensils used for food and drink and the like, after being boiled one minute. The germs of the disease are destroyed by cooking, but fresh germs may again occupy it if it stands long.

To make boiled water taste well, add to each glass (half a pint) as much tartaric acid as you can take on a knife-point, or two drops of hydrochloric acid.

Keep water in clean vessels.

Tea, coffee and cocoa are permitted drinks, also good beer and pure wine.

Beware of ice and very cold drinks.

Let your beer be clear and fresh, neither sour nor insipid; have it served to you in glasses which have been washed with unsuspicious water, (when necessary, boiled).

Bitter schnapps often contains aloes, hence, act laxatively and are questionable.

Mineral waters are unquestionable, if they come from natural springs, or are prepared with distilled water.

Avoid drinking uncooked milk.

The disease may adhere to butter and fresh cheese, if they were prepared or kept near persons ill with cholera.

Eat fruit and vegetables, also onions and the like, only in a cooked state.

Eat nothing uncooked or unroasted which strange hands have touched, unless you know them to be reliable.

Purchase food only from reliable, clean shops. Avoid such as are in cholera houses.

Avoid all excess in eating and drinking. Be especially cautious if you incline to diarrhœa.

Eat and drink nothing as wholesome which is in a sick room. Consider that flies and such insects might carry the germs of disease from the patient to your food.

Even cigars may convey infection in a patient's house.

3. Keep your head cool, your body warm, your feet dry.

Live and sleep in pure air; fumigations do not prevent contagion.

Wash your hands frequently during the day

with water, soap and brush, especially before you touch eatables.

If you have touched any dirty or suspicious objects, first wash your hands carefully with a solution of four teaspoonfuls of clear, fluid carbolic acid in a quart of water (five per cent. carbolic acid solution); then wash this off with clean water and soap.

In cholera regions do not bathe in rivers or ponds.

Use a public privy only in case of necessity. The seats of privies which are used by strangers should be cleaned daily with soapy water. For this take one pound of soap to a pail of hot water. If your privy is used by persons suspected of disease rinse the wall of the funnel with freshly slaked lime (one part quicklime to four parts water.)

4. The infectious material of cholera is contained in the excretions of the patient. It adheres to soiled linen and clothing, and can be transmitted by anything which touches such objects or excretions, even when this occurs indirectly and not in a noticeable manner.

Excretions of persons ill with or suspected of having cholera, and floors, etc., soiled with them, disinfect by copious (at least hourly) use of slaked lime or chlorinated lime solution (five drachms chlorinated lime to one quart of cold water) or other trusted disinfectants.

Linen, clothing, bed clothing covers, and the like, also such as come to you from cholera regions, send well wrapped up and tied, to a public disinfecting institution.

If such is not in reach, soak the things twenty-four hours in soap and water (one pound washing soap to a pail of hot water) and then boil thoroughly.

Other soiled objects cleanse thoroughly with such soapy water, with quick lime or carbolic acid solution. If the nature of the objects does not admit of this, then place them for at least six days in an unused, airy, dry place.

Thorough drying is unfavorable to the development of the disease germs.

5. If your digestion is disturbed, if you have diarrhœa, especially with vomiting or great nausea, consult a physician at once.

Until he comes, take a warm drink, put on a woolen bandage about your body, remain in your room; if in great distress, go to bed.

For relief you may take a cup of tea with cognac or rum. Let your food be a mucilaginous soup, also zwieback, or stale white bread without butter.

If you have reliable (prepared from a physician's prescription) cholera drops at hand, take from 20 to 30 drops on sugar.

Keep your presence of mind, even if you are ill. Fright and cowardice act unfavorably on body and mind.—*Woman's Med. Jour.*

TREATMENT OF THE ACCIDENTS OF ANÆSTHESIA.

In the treatment of the accidents of anæsthesia there seems to be very little accord or general agreement. It is a reproach to medicine and very unfortunate that such should be the case in the treatment of any condition, much more the grave complications which we sometimes meet with here.

Is it not enough that our friend the homœopath should be satisfied with superficial and hypothetical analyses of diseased conditions, and still more superficial and absurd therapentical applications to those conditions. We ought to have a thorough and rational idea of any pathological condition that may arise and then apply remedies in an equally rational manner.

What then is the condition likely to arise which will require active treatment, and what treatment is the best and most likely to be fruitful of good results? The condition most likely to arise is overcrowding of ether which probably acts in two ways; first by its narcotic or poisonous effect on nervous matter composing the important centres of respiration and circulation; second by its mere presence mechanically preventing access of sufficient oxygen to those centres.

The treatment then, of course, will be to supply air to the blood.

Open the windows and invert the patient—generally the last things that are thought of. People cannot get it out of their heads that anæsthetics are not chemical poisons in the true sense of the word, and the most that is necessary is to supply fresh oxygen, and allow the system to eliminate the agent. Inversion and fresh air is the treatment of all cases where the patient has apparently ceased to breathe. There should be no time wasted in endeavoring to perceive whether the heart is acting or not. Prompt inversion, not allowing an instant to intervene, for in one instant who knows but that the patient may cease to live.

Throw the patient over your back, taking him or her by the heels and allowing the head to hang as low as is possible. Time, place or propriety have nothing to do with it. It is a case not of life or death, but death or life, with life in the preponderance.

The *rationale* of this is perfectly intelligible. It is that you shall produce by means of gravity that which you cannot by means of the vital pump. Because the vital pump is for the instant collapsed, no good, struck for higher wages. By means of gravity you bathe the paralyzed nerve centres with what amount of oxygen there is left in the vitalized blood current, and thus in many cases start up the whole apparatus of circulation and respiration.

And this brings us to the second part of our treatment and that is artificial respiration. How, let me ask, will it be possible to practice any of the various methods of artificial respiration, whether it be Marshall Hall's or the Sylvesterian or what not, in the inverted position?

You must either sacrifice the position, which I am afraid is too often done, or find some new method of introducing air into the lungs.

And a method that commends itself to me is one that I saw mentioned not long since in the *Reporter*, *i. e.*, direct insufflation mouth to mouth. I have never had occasion to try this in an adult, but have used it in several cases of comatose babes, which might have been in another world if I had not hoped, believed, and been patient. Some of these babes were white and some were black, some came by the breech, and some had the cord wrapped tightly around the neck. All were blue, limp and apparently dead. I do not remember ever to have failed to resuscitate any of them, and my method has always been the same. A large bowl filled with pretty hot water, some of which is dipped out from time to time and hot water introduced in its place. The babe is suspended in your hands in the hot water from which it is raised for an instant from time to time, and the end of a towel wet in cold water dashed against its back and chest. Direct insufflation into the lungs mouth to mouth. I have kept this up for three hours, the perspiration rolling off me and my bones feeling as though they had been through a rock breaker. And finally had the satisfaction of seeing the limp and apparently lifeless, cold and blue body become warm and red. Then wrapping the babe in raw cotton I toast it before the fire, and in a few hours it is dressed. It does not need washing.

I don't mean to say that the babe *is* dead. Often I have fancied that I could hear a feeble heart beat though I don't spend very much time making a critical examination.

But it does not breathe, and in all probability would I think be classed as dead birth if its blue and cold body had not been warmed into life at the same time that the breath of life was blown into it to perpetuate that warmth and life. In the beginning of my career I used to use a tube, especially if it was a black babe, but very soon threw it aside. There is no time to think of nice points such as possible infection, blood poisoning, etc. A life is at stake, a human life, and if a man saves one life in his own lifetime he may have accomplished something. The theory of the hot water is this:—In the first place it makes the best medium possible for imparting an equalized and regular temperature to the child's body, and has the advantage that it can be nicely regulated by the addition of more hot water by displacement. Besides which I am of the opinion that with each moment that the blood is allowed to remain cold at the surface of the body, is the hope lessened that it shall be made to move and circulate healthily in the vessels.—A. D. Mansfield, M.D., in *Medical and Surgical Reporter*.

ON THE TREATMENT OF DIABETES MELLITUS BY FEEDING ON RAW PANCREAS.

A. H., aged 39, a policeman. There was nothing of note in his family history. He had always enjoyed excellent health, until about three years ago, when he passed a large quantity of urine and lost flesh. He continued at his post till March, 1892, when he was admitted into St. Thomas's Hospital, where, according to his statement, he was carefully dieted, etc., and was discharged at the end of six weeks, incurable, and having lost weight during this treatment. He gradually got weaker and thinner, and suffered from shortness of breath. He came to the out-patient department of the North-West London Hospital on January 10th, 1893.

He then presented an extremely emaciated condition, appeared very feeble and prostrate, and complained of pain in his chest and a troublesome cough. His tongue was thickly coated with a dirty brown fur, and dryish, and was, as he expressed it, sticking to the roof of his mouth. There were some moist *râles* at the right apex, the abdomen was full, the liver dulness extended to nearly 2 inches below the costal arch, and there was a marked stomach splash to be elicited. The specific gravity of the urine was 1038; it had a marked trace of albumen, and was loaded with sugar.

On January 20th I recommended him to try the pancreas treatment, and gave him the following directions: To purchase daily a fresh sweetbread, to squeeze all the juice out through a sieve, to drink all this juice raw, and to very slightly cook the sweetbread and eat it.

On February 2nd I made the following note: Feels much better, appetite improved, cough less, passes less water (does not have to get up so frequently at night), sleeps much better, physical signs over lung drier, tongue cleaner and moister. He gave the following account of his daily diet: breakfast, bacon and eggs, toast and tea; dinner at 1, sweetbread, with tea or water; at 4.30, tea, toast, and butter; supper, cold meat, or the remainder of the sweetbread and a glass of beer.

On February 24th he had still further improved; cough and expectoration were less; the tongue was dirty at the extreme base, otherwise clean and moist. On March 10th he had gained two pounds in weight (since January 20th), and continued to feel much better in himself; he quite enjoyed the

sweetbread, and now took it almost raw. He stated that the quantity of urine passed was much less, especially at night, and caused him to get up only three times, formerly it was five or six; also he only required one utensil, formerly a second one was always used. There was a slight cough at times, with very viscid expectoration, but no *râles* were to be heard over the lungs. The tongue was clean at the tip and edges and quite moist, but continued furred at the extreme base. While under my treatment he has taken an alkaline gentian mixture, and some acid linctus, but no other drug.

Unfortunately the circumstances have prevented a minute study of the case, as in the two recently published by Dr. Hale White. The patient has only been seen in an overcrowded out-patient department, and but once a week. Nevertheless, the progress which has obviously taken place may be worth recording, especially as the treatment has been so simple, and has never been met with any but the most encouraging results.

From the analysis of the urine, kindly made for me by the house-surgeon, Mr. Hamper, there does not appear to have been any marked change in the percentage of sugar, but the albumen has disappeared; the improvement appears to have been in the diminished quantity of urine passed. The average percentage of sugar has been just over 12 grains to the ounce.—*Brit Med. Jour.*

TREATMENT OF ACCIDENTS DURING ANÆSTHESIA.

In a very interesting address on recent advances in therapeutics, Dr. Hare calls attention to the following facts regarding emergencies under anæsthesia:

1. The worthlessness, or worse, the danger of using the faradic current as a means of resuscitation in accidents arising from anæsthesia. The action of such a current on the diaphragm, could it be obtained, would be to produce a rigid tetanic spasm, a condition fraught with the greatest danger. It is impossible, however, to influence the phrenic nerve by any but strong currents, for the resistance offered by the cervical tissues is too great for feeble currents to penetrate them. The pneumogastric is more likely to be influenced by such a procedure, as experiments conducted by Dr. Hare and Dr. Martin proved, and any inhibition of the heart's action added to the depression of the anæsthetic, or to the engorgement of the ventricles already present, might favor greatly a fatal result. Any good results which may occasionally have been obtained must be attributed to the action of the current merely as a peripheral irritant producing reflex action.

2. The danger, under certain conditions, of inversion of the patient during anæsthetic narcosis, if threatened by respiratory or cardiac failure. This proceedure is only justifiable when heart-failure is indicated by marked facial pallor. If the respiration be at fault, we should carefully avoid any inversion. The presence of still more venous blood about the already exhausted respiratory centre cannot aid it, but only injure it. Further, by inversion we may distinctly interfere with the respiratory act by compression of the diaphragm, through displacement of the abdominal viscera. This is specially liable to occur in persons with large pendulous abdomens, or in persons who have recently suffered or are suffering from tumors of the abdomen.

3. He emphasizes the importance, during the administration of anæsthetics, of watching the action of the diaphragm. He thinks it an invariable rule that the first evidence of the full effect of ether is seen in the diaphragm. He has been able to foresee danger by watching this muscle when the examination of the ordinary respiratory act, as a whole, failed to show any abnormal changes. As soon as the movements of the muscle become abortive, or irregular, it is time to stop the anæsthetic.

4. Another point of much importance in the treatment of persons suffering not only from the over-effects of anæsthetics, but also from the depression caused by other accidents, in the use of heat. He found that it was possible to lower the bodily temperature of a dog many degrees by prolonged anæsthesia, and that in man a fall amounting to four degrees might occur in comparatively brief operations and with little or no loss of blood. Hence, the application of heat about the body of a person undergoing an operation is of the greatest importance, and its use only after the operation stultifies the operator, who forgets the old adage, "An ounce of prevention is worth a pound of cure." Care at the same time should be taken that the heat is not too great, and artificial heat-stroke brought about.

5. He strongly recommends the use of strychnine as a remedy for, and a preventive of, surgical shock and anæsthetic collapse. It must, however, be given in full doses. Not less than one-twentieth of a grain should be employed hypodermically every half hour in an adult, and if the condition of shock, or respiratory, or cardiac failure be marked, one dose of as much as one-fifth of a grain may be given in this way. Disagreeable effects rarely, if ever, follow, and if they do they amount to little more than muscular twitching, while in the condition spoken of the man is on the brink of death and we cannot afford to make haste slowly.

He strongly recommends bromide of ethyl as an anæsthetic safer than chloroform, and almost, if not quite, as safe as ether. The profession, he

says, is gradually coming to recognize the fact that anæsthetics are to be used like other drugs, because of distinct indications. In much the same way that the physician decides that digitalis is suited to one case and strophanthus to another, so should he recognize that one case is suitable for ether, another for chloroform, and another for bromide of ethyl.—Dr. Hare, in *Therap. Gazette.*

MEDICAL NOTES.

Prof. Keen says that many cases of *Gleet* are due to strictures of large calibre.

Prof. Hare says *Digitalis* is an invaluable remedy in the second stage of pneumonia.

Prof. Wilson says that the salicylates do not prevent *Cardiac Complications* in cases of rheumatism.

Prof. Wilson says that *Salicylic Acid* should never be administered in solution, but in a capsule.

Prof. Hare says that the citrate of potassium, combined with ipecac., is of the greatest value in the early stages of *Bronchitis.*

Prof. Keen states that an injection for cases of *Gonorrhœa* should be retained in the meatus for at least three to five minutes.

Prof. Keen thinks the sulpho-carbolate of zinc is the best preparation of zinc to be used as an injection in cases of *Gonorrhœa.*

Prof. Hare says one-half to one drop of oil of cloves, in a little water, will sometimes be found to control *Excessive Vomiting* quite speedily.

Prof. Wilson says that cases of *Laryngeal Diphtheria* have been known to recover spontaneously, even after mechanical obstruction has set in.

Prof. Keen does not favor the use of the *nitrate of silver as a caustic* in touching the proud flesh resulting in the healing of large ulcers. He rather prefers a solution in the strength of ten grains of chromic acid to the ounce.

In a typical case of *Cirrhosis of the Liver,* Prof. Wilson has noted good results from the following treatment: Milk diet with pepsin, hydrochloric acid, and phosphate of sodium as internal remedies.

Prof. Hare says that *Digitalis* is apt to irritate the mucous membranes in cases where they are already somewhat out of order, and, therefore, this drug should not be administered by the mouth in gastric or similar affections.

Prof. Hare gives the following prescription in cases of *Pruritus Vulvæ*:—

℞—Hydrarg. chlorid. corrosiv., . gr. ½
Acid. hydrocyanic dilut., . f ʒ j.
Aquæ amygdal. amaræ, . . f ℥ vj.—M.
Sig.—Apply to parts itching.
—*Coll. and Clin. Rec.*

THE CURETTE IN OBSTETERIC AND GYNECOLOGICAL PRACTICE.—John G. Cecil (*Medical and Surgical Reporter,* January 14, 1893), referring to the curette, remarks that the good results that may be had from its use are so manifold and great, and so far outweigh the dangers, "that to enter a plea for a place for it in the armamentarium of the obstetrician and gynecologist would be a work of supererogation." The sharp curette is the instrument spoken of, the wire curette being almost useless. With proper antiseptic precautions and a little practice in its use, there are no dangers to be feared from the employment of a sharp curette. The author advocates the technique of curettage which is suggested and practised by Pozzi. These measures embrace a bath for the patient some hours before the operation, and thorough cleansing of the region with soap and water, and then with bichloride of mercury solution, 1:2000. Three injections of sublimate solution must be given on the day of the operation—two at intervals of an hour and one just at the moment of operating. In case there is need for disinfection of the uterine cavity as well as of the vagina, as occurs from malignant diseases of the interior of the womb, the irrigation had better be made intra-uterine, and it is to be remembered that gynecological cases will tolerate a much stronger solution of sublimate than obstetric cases will stand. While the pain inflicted is not severe enough to require anesthesia, it is rather more satisfactory to use an anesthetic. It is essential that the cervical canal be dilated sufficiently to allow the easy introduction of the curette and the escape of all tissue which is scraped away. For the purpose of dilatation the graduated or steel dilators are recommended. Where constant disinfection of the field of operation seems desirable, this can be accomplished by filling the speculum with sublimate solution and elevating the patient's hips sufficiently to allow the fluid to enter the uterine canal. After systematically scraping the entire surface of the interior of the uterus, a hot antiseptic douche should be given, and all fragments washed away. An application of a mild caustic may be made or the cavity packed with iodoform gauze. Three or four days' confinement to bed is a desirable measure to insist upon even in the simplest cases, although this is not necessary, as patients are frequently curetted and allowed to walk or ride considerable distances almost immediately afterward. Speaking of the use of the curette in cases of "uterine catarrh," the author says his experience has been uniformly successful. The cutting in such conditions must be deep enough to remove the diseased follicles to their entire depth. Hæmorrhage due to the presence of submucous fibroids can be promptly checked by the use of curettage. The mucosa must be removed, for it is chiefly due to engorgement and irritation of this

membrane that the hæmorrhages occur. The author is not yet satisfied to disregard the teaching that acute and also chronic inflammation of the uterus and its appendages are contra-indications to the employment of curettage, for experience has demonstrated that such conditions occasionally become suddenly aggravated upon slight provocation, and cause very serious results.

On the Prognosis in Chronic Albuminuria.—Since it has become the practice to examine the urine for albumen as a matter of routine in all cases, as well as in the presumably healthy class of persons presenting themselves for life assurance and for the public services, a numerous and well defined group of cases has been recognised to exist in which the albuminuria may properly be termed "functional." They constitute from one-third to one-half of all the cases of albuminuria that come under one's notice. The clinical significance of albuminuria as a symptom has consequently undergone a marked diminution during the last twenty years. Moreover, the systematic examination of the urine permits of the recognition of the mischief at an earlier period of its course, in fact before the kidney structure has been irreparably damaged. Under these circumstances it has become possible, by improved hygienic and dietetic measures, to check its advance and possibly in acute forms to prevent its recurrence. This has not only rendered the prognosis of albuminuria as a symptom more hopeful but enables life to be prolonged even in the graver cases associated with renal disease. In cases of organic renal disease, however, many other circumstances have to be taken into consideration before arriving at a prognosis, such, for example, as the constitution of the patient, heredity; specific conditions such as gout, syphilis, struma, malaria, etc., also specific poisons such as scarlet fever, diphtheria, lead poisoning and the like. The result is that nearly every patient presents some variation worthy of notice affecting the predisposing or exciting causes that accelerate or retard the progress of the disease.

The most familiar varieties of chronic albuminuria are those which culminate in contracted kidney with its concomitant cardio-vascular changes, or the red variety. Owing to its insidious nature the true character of the disease is often not recognised until late and is then revealed by some symptom, other then albuminuria, of grave prognostic importance, such as albuminuric retinitis, dyspnœa, hæmorrhages from mucous surfaces and paralysis. The prospect of prolonging life at this stage is, of course, small indeed. I may mention the case of a patient whose urine in 1878 was found to be normal, his pulse soft and the heart not enlarged. In 1882 he was found to have developed albuminuria, with enlargement of the left ventricle and a tense pulse. During the subsequent eleven years his condition has not become appreciably modified for the worse owing in great measures to his care in respect of diet and general hygienic precautions. In reference to the nephritis of gouty patients, the intensity and continuance of the inflammation appear to be influenced by the severity of the gouty manifestations and where these can be controlled the renal affection may run a very chronic course. In one case, in which albuminuria with distinct nephritis has run on for nineteen years, the patient is still alive. Symptoms such as uræmia, dropsy, etc., have not the same grave import in cases of gouty nephritis as in other varieties of chronic albuminuria and are often relieved by an outbreak of acute gout. Nephritis occurring in patients who have had syphilis is not of favourable prognosis, vascular degeneration usually supervening at an early period, after which life is rarely prolonged more than eighteen months. Among other forms may be noted chronic hæmorrhagic nephritis and a paroxysmal form which may well be a true gouty inflammation of the kidney. Still another form is met with in middle aged, obese persons, probably due to venous plethora, often coexisting with a mild form of diabetes. The albuminuria met with in morphia *habitues* is probably due to this cause, the drug causing partial paresis of the renal veins and their branches. It is essential not to overlook the importance of intermittent albuminuria in persons past middle age, this being often the prelude to more serious manifestations. A milk diet is of value more particularly in acute or subacute nephritis and for the relief of dropsy. It is badly borne at an advanced period of the disease, especially if there be much arterial degeneration or uræmic symptoms. In one such case uræmic convulsions followed every attempt to enforce a rigid milk diet.—*Med. Week.*

The Motor Disturbances of the Heart of Nervous Origin.—Dr. George W. Jacoby read a paper on this subject. He stated that in a large number (probably in more than one-half) of the persons who consult us on account of some motor disorder of the heart, no anatomical lessin is clinically discoverable, and no mechanical cause can be found. In such cases it is reasonable to seek for the cause of the altered function in some disorder of the complicated nervous apparatus of the heart. The subject may be conveniently divided inco intermittent, irregular, abnormally slow (bradycardia) and abnormally frequent (tachycardia) heart's action.

Intermittency may be true or false; in the latter form the pulse fails, but the heart is regular, while in the former the heart beat is actually dropped. In irregularity of the heart's action the number of pulsations varies from minute to minute, or the pulsations vary in height and tension. These

forms of arythmia may be presistent or only temporary; when presistent, Dr. Jacoby said they are probably due to some organic disease of the heart, whether such can be detected or not; when they are temporary, they are either dependent upon defective blood mixture or are purely neurotic. Toxic influences associated with sexual excesses, and with the excessive use of tea, coffee, tobacco and alcohol he has found to be potent in the production of arythmias. Intermittency may be due to even the moderate use of alcohol.

Slow pulse, or bradycardia is a term applied in cases where the pulse falls below 60 per minute, or according to other writers, below 40. Slow pulse should be regarded as a symptom only and may be due to a variety of causes. If we make use of the term bradycardia at all, we should limit it to such cases in which the infrequency of the pulse is due to a disorder of innervation. A slight reduction in frequency of the pulse is very common in disturbances of the digestive tract.

In paroxysmal tachycardia the attack is always sudden in its onset and usually unexpected. The pulse is increased from normal to 180, 240 or even to 300 per minute, according to some observers. There is no irregularity of rhythm nor intermittance. The heart beats in a strong and energetic manner, and in direct contrast to its action is the extreme diminutions of arterial tension. The cessation of the attack is as sudden as its onset. The paroxysms vary in duration from a few minutes to several hours, and occasionally last even for days. The intervals between the attacks are irregular. During an attack the excretion of urine is generally diminished; it may be followed by the passage of a large quantity of clear, limpid urine. The etiology of these cases is obscure. Psychic influences, fright, errors of diet, bodily exertion have all been assigned as causes. It is an affection of adult life, this we can say positively, and the best established causes are bodily and cerebral overwork.

In concluding his paper, Dr. Jacoby referred to the pathology of these cases, and gave a brief review of the various theories put forth regarding the nervous mechanism of the heart. The assumption that we are dealing with a bulbar neurosis in these cases appeared to him to be the most probable one.—*Med. Week.*

THE FRUITS OF VIVISECTION.—Sir Andrew Clark has given to *The Hospital* a brief list of the results of experimental research, which may be perused with profit by the anti-vivisectionists. By experimental research surgeons have been enabled to arrest or cure diseases by excising portions of the stomach, by removing one of the kidneys, by amputating the larynx, and by extirpating portions of the brain and spinal cord. By experimental research Koch discovered, in the presence and action of the tubercular bacillus, the true cause of tuberculous disease; and this discovery has not only thrown a flood of light upon the natural history of consumption, but has enabled us to discover its presence when otherwise unsuspected, and to bring about a successful revolution in the treatment of surgical tuberculosis. Furthermore, there are just reasons for expecting that the continuance of this experimental research will lead to the discovery of means for the prevention, and perhaps even the cure, of pulmonary consumption, which destroys so many of the fairest and best of our race. By experimental research we have discovered the condition for using with efficiency and safety almost all the stronger and most useful drugs, such as digitalis, chloroform, ether, chloral, nitrite of amyl, nitro-glycerine, and many others. By experiment upon animals we have discovered the nature and relations of infectious diseases; and we have learned how, in some measure, to prevent the development and to control the spread of fevers, cholera, anthrax, and septicæmia. Through experiments on animals we have received the use of the electric telegraph, and all the various services which electricity now renders to the convenience and uses of man. And yet, with all these services before us, one cannot (in England) scratch the neck of a rabbit for the advancement of knowledge without becoming a legal criminal. But, on the other hand, for your pleasure, or for your profit, or for any other object than the promotion of knowledge, you may, without let or hindrance, beat, starve, mutilate, or destroy as many animals as you please. Knowledge can be advanced now only by experiment, and if experiment is to be suppressed, and if consistently the knowledge acquired in this manner is to be rejected, then it is certain that the art of preventing and of curing the diseases of beasts and men will decay; that physical and mental degeneration will follow, and that science in England will become the contempt and pity of the world. And if physiology, pathology, and thereapeutics were to continue their course without the help of experiments upon animals, the errors that would be committed in the exercise of our art would bring about greater suffering and greater unhappiness than all the vivisections which have ever been performed. Lastly, if experimental research hardens the hearts of experimenters, it is only too plain that an active antagonism to it begets a disregard of accuracy, a violation of charity, and a spirit of calumny which have no parallel among ordinary men.

SOME ERRONEOUS IDEAS IN PTOMAINES.—Considerable misconception—not to say fundamental ignorance—is prevalent on the subject of ptomaines. This may clearly be seen from letters and articles which have appeared in the press since the recent sardine poisoning case, and also from

statements made by medical men under conditions calculated to lend authority to their utterances. A case recently tried in a northern town, and an inquest held only a few miles from the same town, have brought out assertions regarding ptomaines which are almost as erroneous as the announcement in a popular weekly review that "ptomaines are bacteria." As for obvious reasons, the erroneous statements made in connection with this subject are extremely dangerous, since they may lure the public into feeling of safety or comfortable reponsibility, it is desirable to point out some of the commoner and, at the same time more dangerous, misconceptions in regard to these poisons.

We hear it stated sometimes that all ptomaines are destroyed by such an amount of heat as is employed in the ordinary process of cooking. This might be so, if it were the case that ptomaines were bacteria ; but if it were so, cases of food poisoning would be unheard of. Anyone acquainted with Brieger's work and the chemistery of these toxines knows how stable and resistant against heat almost all, and especially the more important, ptomaines are ; and that, therefore, there can be no safety in boiling, so far as the destruction of these bodies is concerned. Moreover, in the separation of many of these substances heat is constantly employed without the slightest effect on their toxic properties. Analogous observations are almost daily made during the preparation of the chemical products from pure cultures of bacteria, where heat is constantly used to destroy the microorganisms. If there be death in the pot, generally speaking, no amount of boiling will prevent it. Another statement which invites unqualified dissent is that by boiling the poison will be distilled out and so much diluted by the water used as to become innocuous. Most ptomaines—there are exceptions—are very soluble in water, but it is absurd to assume that if hidden in the centre of a piece of meat they would diffuse through the tissues and be dissolved and diluted. Lastly, the fact of several people who have partaken of a tainted article of food only one has suffered, has been used as an argument against the toxic nature of such food in any particular case. Can anything be more erroneous? The poison may be extremely localized in a particular piece of meat, the rest being free from it; and when we have to deal with a number of fish packed in the same tin, some only may be tainted, as well as shown in the case investigated by Dr. Stevenson, as here, moreover, the boiling oil in which the sardines are placed had not destroyed the lethal substance.

The prevention of food posioning is a problem of extreme difficulty. In the meantime, however, we must remain fully alive to all the results of accurate chemical and physiological observations, and not lull ourselves into a feeling of safety while we may be face to face with death, all the more deplorable as it is unforseen, accidental, but fortunately rare.—*Br. Med. Jour*

Treatment by Drugs.—It is a significant sign of the attitude of the medical profession towards the question of treatment of disease that an outspoken belief in the efficacy of drugs is not now an uncommon thing. It is not a great many years since medical science emerged from that mass of empiricism which had grown round it in the Middle Ages, and perhaps no more interesting or amusing occupation can be found than in trying to arrive at the reasons which in those old days prompted or suggested the use of certain drugs under certain conditions and to effect certain objects. With this emergence from empiricism, bringing with it as it did the foreshadowing to some extent of rational treatment, there came the natural and inevitable scepticism as to the efficacy of drugs, leading too often to a bold negation of their usefulness under any and every circumstance. But, as history is said to repeat itself without ever evoking exactly the same condition of things, so treatment by drugs at the present time bids fair to assume its ancient importance and to occupy much of the attention of everyone who has sufficient courage to confront our pathological conceptions of disease with some remedy for the use of which there is a rational foundation. No doubt the reason of this lies in the great advance that has taken place in two different directions. In the first place, many diseases are now recognised as the effect of toxic substance, using the word "toxic" in its very widest sense. Many of these toxic substances are of the nature of chemical compounds, and it is scarcely surprising, considering the enormous strides which scientific chemistry has recently made, that a hope should be born, that anitodes for some of the poisons may be discoverable, or that something may be found the application of which may render the morbid process impossible. In the same direction also is the search for some remedy for combating those probably disturbed internal conditions which underlie many of what, for want of a better name and more exact knowledge, we term "functional" diseases, and it is significant to find an authority of the high standing of the latest Fothergillian medalist declaring his growing belief in the efficacy of drugs in the treatment of disease. We cannot do better than quote some of his words: "I have been surprised," he says, "at the amount of good that has been done in affections commonly looked upon as intractable—relief, arrest and restoration. With each successful year's experience it seems to me greater and more distinct and to elicit more gratitude from the patient to whom it is applied." These words are very encouraging, and we have no doubt that during the next few years there will be discovered even more potency in the

weapons already at our disposal, as most certainly new ones will be revealed.—*Lancet.*

A NEW AND RAPID METHOD OF REMOVING THE UTERUS.—At a recent meeting of the Kansas City Academy of Medicine, Dr. Emory Lanphear presented a number of fibroid tumors, sarcomata, etc., removed by a new method of abdominal hysterectomy. The abdomen and vagina having been carefully sterilized, he makes an incision in the median line terminating as close to the pubes as possible, draws the uterus with one tube and ovary to one side, and applies a clamp to the broad ligament; a strong ligature is passed a half inch away from this, including the blood-vessels, and tied; the intervening tissue is then cut with scissors. Upon the opposite side the same procedure is carried out. When done, the uterus (hitherto held down by the broad ligament) can be lifted up into the wound and separation from bladder and rectum easily accomplished; these incisions, before and behind, are carried into the vagina, when a Kelly's or Polk's clamp is introduced through the vagina as close as possible to the uterus, its points reaching the ligature already tied in the broad ligament. As soon as properly applied it is closed and its fellow clamp inserted upon the other side, when the uterus is quickly cut away with curved scissors. The pelvis is irrigated and the abdomen wound closed and drainage made through the vagina, as in cases of vaginal hysterectomy. The clamps are removed in forty-eight hours. The operation can be done in twenty-five to thirty minutes, being much easier than even vaginal hysterectomy with clamps. By the rapidity allowed and by the good drainage secured, Dr. Lanphear thinks this operation can be done almost as safely as an ovariotomy—certainly as safely as a vaginal hysterectomy; and it is much preferable to any method which leaves a pedicle or stump behind. He finds it is not necessary to unite the bladder to the rectum, as union takes place just as quickly without sutures as with them.—*Med. Rec.*

DEATH OF A DENTIST FROM NITROUS OXIDE GAS?—An inquest was held by Mr. C. Luxmore Drew at the Chelsea Town Hall concerning the death of Mr. Thomas Samuel Minett, aged forty years, a dentist in practice in Sloane street. It appears that the deceased was discovered by his assistant seated on a chair in a corner of his surgery, with his head and body bent forwards and his mouth covered by the mouth-piece of a nitrous oxide apparatus. When Dr. Herbert Gage-Brown, who was immediately summoned, saw Mr. Minett, the body was warm, there was no pulse, and he tried artificial respiration without avail. The body was at that time laid upon the floor. The gas apparatus consisted of twin-bottles of 100 gallons, and fixed vertically on a stand with a hand key, and were in communication with the face-piece by means of an india-rubber tube with a two-gallon bag intervening. One bottle, that to which the key was applied, was empty and the tap turned full on, as was also the stopcock of the face-piece; the other was turned off securely. The post-mortem examination revealed only the usual symptoms of asphyxia; all the organs were normal, with the exception of some slight hypertrophy of the heart; the trachea was freely opened and no foreign body was present. The question naturally arises: Was this death due to nitrous oxide acid gas inhaled for too long a time? Dr. Gage-Brown will, we believe, shortly bring before the notice of the profession a full account of this interesting case; we therefore defer any detailed comment; but it seems quite within the bounds of possibility that a man sitting in a chair and taking a whiff or two of gas, to see, for instance, whether the apparatus was all right, might fall forward with his arm supported on his knee or chair, the face-piece being thus kept in position till death resulted. The jury returned a verdict of "Death by Misadventure."—*Lancet*

PATHOLOGY OF PARALYSIS AGITANS.—In the *Zeitschrift für Heilkunde* von Ketscher has an important paper dealing with this much disputed subject. An abstract of it is given in a recent number of the *Neurologisches Centralblatt.* The cases of paralysis agitans, with reference to their pathological anatomy, are divisible into two classes, those in which the examination has furnished negative results, and those in which various changes have been found in the nervous system, such as hyperplasia of the connective tissue and neuroglia of the spinal cord, alterations in the nervous tissue itself and vascular changes. Similar changes have been described as occurring in the medulla and pons. Three cases of undoubted paralysis agitans have been investigated by von Ketscher. The nervous system, central and peripheral, was examined, and in all three cases changes were found in both regions. The nervous structures showed atrophy, the ganglion cells of the brain were deeply pigmented and altered in form, the nerve fibres, both in the peripheral nerves and in the spinal cord, were degenerated, and had, in some instances, disappeared, whilst the muscular fibres were also atrophied or degenerated. The neuroglia was thickened, especially around the vessels and mostly in the posterior and lateral columns. The vessels also were altered, their walls thickened, and there were miliary aneurisms and small hæmorrhages present. Similar changes, but slighter in degree, were found as senile changes in patients not the subjects of paralysis agitans. Von Ketscher concludes, with Borgherini and others, that paralysis

agitans is only the expression of an extreme and premature senility of the nervous system, and he is of the opinion that the primary changes are in the vessels, those in the nervous structures being secondary.—*Jour. Amer. Med. Assoc.*

NEURITIS FROM ALCOHOL.—Dr. Drysdale, of London, in a recent discussion remarked as follows: "The statement that alcoholic neuritis is more common with women than men, is not sustained by my experience. The changes which take place in these neurites are either interstitial or parenchymatous; the latter is the more common. The spinal cord is usually unaffected, but the muscles of the limbs are atrophied. The patient first complains of tingling of the extremities, of numbness, at first in the hands and feet, then extending to the legs, which gradually lose their power. The patient is usually apyretic, going about his usual occupations for a time, until, at last, he takes to his bed. The extensors first show a decided weakening of both the upper and lower extremity, the patient lying in bed with the toes pointed or exhibiting foot-drop. The weakened muscles gradually atrophied, especially the anterior tibial, and interossei of the hand. These muscles do not react to interrupted current, and are variously affected by the continuous current. Anæsthesia is marked in many cases, but occasionally the reverse is present. The muscles are tender to pressure for a long time, especially over the calf. The reflexes are absent, and the legs eventually become contracted and adhesions form round the joint. The patients are, as a rule, apathetic and without appreciation of their condition. Often this disease simulates locomotor ataxy when it effects the lower extremities specifically. It is distinguished from ataxy by tenderness of the muscles and dropping of the foot. In syphilis there is great tenderness of other parts of the body, especially as seen in female patients. The main point of treatment is cutting off the alcohol at once. Where rheumatism complicates the case, salicylate of sodium is of value. The continuous current is valuable in wasted muscles, and in cases much reduced a water bed is essential to prevent bed sores. The treatment is essentially a tonic and a building-up one."—*Jour. of Inebriety.*

CREOSOTE IN TUBERCULOSIS.—Dr. Stark, *Therapeutic Gazette*, in concluding his paper on "The Creosote Treatment of Tuberculosis," submits the following resume:

1st. Creosote is no longer an innovation or a fad, but a drug which has come to stay as an antitubercular remedy.

2nd. Creosote is particularly valuable in the earlier stages of tuberculosis.

3rd. Its administration must be in moderate doses for a prolonged period.

4th. That it is a safe and reliable prophylactic in the condition that is usually described as pretubercular anæmia.

5th. It should be administered in combination with approved adjuvant remedies.

There are several easy and palatable methods of administration. The following prescriptions are ordinarily employed by me, the daily doses being dissolved in some alcoholic or vinous mixture, as whisky or sherry:

℞—Creosoti (beechwood), . . ♏ xlv.
Glycerini, ... ʒ j.
Aquæ destil., ... ad ʒ ij.
Dose.—ʒ j. t.i.d.

℞—Creosoti (beechwood), . . ʒ j.
Tinct. gentian comp., . . ʒ ij.
Dose.—♏ xv. t.i.d.

℞—Creosoti (beechwood), . . ʒ ss.
Bismuthi subnitrat., . . ʒ j.
M. et f. in capsul. No. xv.
Dose.—One every four hours.
—*Med. and Surg. Rep.*

DUBOISINE IN THE TREATMENT OF HYSTERO-EPILEPTIC CONVULSIONS.—Quinine and more recently antipyrine have been recommended in the treatment of the convulsions of hystero-epilepsy. Dr. P. Albertoni, professor of physiology at the medical faculty of Bologna, now advocates the use of hypodermic injections of half a milligramme (grain $\frac{1}{130}$) of sulphate of duboisine in the treatment of the same affection. He has employed these injections with success in three cases. In the first of these the administration of morphine and atropine had produced no effect on the convulsions, which were very violent. They, however, disappeared after two injections of duboisine, and since that time, a period of five months, the patient has only had two more attacks, which coincided with the menstrual epoch and readily subsided under the administration of a single injection of duboisine. The other phenomena of hystero-epilepsy, however, remained unaffected. In the second patient the convulsions also rapidly disappeared after a few injections. The same result was obtained in the case of the third patient, but here the administration of duboisine was apparently followed by an exaggeration of the cardiac palpitations from which the patient had suffered previous to the application of the treatment.—*Med. Week.*

THE VALUE OF ARISTOL IN CATARRHAL AFFECTIONS.—During the final days of winter and the early weeks of spring when catarrhal affections of the respiratory passages are an equal source of worry to physician and patient, aristol does excellent work. Dr. Porteous writes (*American*

Therapist):—"Aristol in post-nasal catarrh and hay-fever has acted well in my hands. After thoroughly douching the nasal and post-nasal passages, also the pharynx, with some antiseptic lotion, I apply to all available parts the powder. In no cases have I seen failure." Aristol has been equally successful in catarrhal maladies of the ear, even after the lesion has progressed into the most unsatisfactory morbid conditions. Dr. W. Byrd Scudder writes (*Eclectic Medical Journal*, 1893): —"In a suppurating middle ear where most of the membrana tympani has sloughed away, aristol may be blown in to perfectly coat all unhealthy tissue. I used it in a case of necrosis of the bones of the canal with excellent results." Dr. R. H. Gibbons recommends aristol (*Times and Register*, December 10, 1892) in a great variety of conditions calling for surgical treatment. He adds:—"I have resorted to the use of aristol in the dressing of surfaces in the cavities of the body, those of the ear, the nose, the vagina, and the rectum." His results, he writes, "have been satisfactory to an extreme degree."—*Phy. and Surg.*

CASE OF PUERPERAL SEPTICÆMIA; RECOVERY UNDER CARBOLIC ACID TREATMENT.—I have quite recently had a case of puerperal septicæmia which, from the first, I could only regard as hopeless, but which, nevertheless, I successfully treated by the administration of carbolic acid.

On the 21st of last month I was called to a Mrs. McC——; she had been confined the Saturday previous, by a "handy woman" who, some days prior, as I happened to know, had attended a patient suffering from puerperal septicæmia. Mrs. McC., on the occasion of my first visit, presented a haggard, anxious expression. There was rigor, skin hot and dry, great thirst, tongue furred and dry, temperature 103·6. Pulse feeble, 130. Lochia fœtid. I prescribed two grain doses of carbolic acid every two hours. I visited the patient night and morning, and without giving the minor details and treatment, it will suffice to say that on the fourth day I found the patient screaming and yelling, struggling violently, and throwing her arms about in delirium. The temperature was now 106 8, and the pulse imperceptible. I gave ½ grain of morphia subcutaneously repeated in quarter of an hour, and double this quantity in half an hour. Slowly she quieted down, and in two hours she fell asleep for one hour. She was able to recognize all around her, singing, crying, laughing and breaking into fits of violent temper, in turns. Perspiring freely, no tympanitis. Evening temperature 106·; pulse imperceptible. Bowels moved twice. She lies on her back with knees drawn up; rapid breathing, slight tenderness over abdomen. Complains of headache and dryness of throat.

On 25th.—Temperature 106·1; pulse imperceptible. Low muttering delirium, cold clammy perspiration, rapid breathing. Evening temperature 106·4; pulse imperceptible. Bowels moved thrice. Slept one hour.

On 26th.—Temperature 104; pulse 138. Less delirium. Breathing less rapid. Bowels moved; urine normal in color. Evening temperature 105; pulse 148. Slept one hour. Skin and tongue as before. Bowels moved.

On 27th.—105·4; pulse 150. Low muttering delirium. Evening, 105; pulse 144. Bowels moved.

On 28th.—Temperature 104·6; pulse 138. Still delirious. Evening, 105; pulse 144.

March 1st.—Morning temperature 103; pulse 120. Perspiring freely. Evening temperature 103·4; pulse 120. Less delirious.

March 2nd.—Morning temperature 100; pulse 116. Evening temperature 102; pulse 120. The next day the delirium had disappeared, but in the evening she complained of cough, dryness and pain in throat.

On the 4th the temperature became normal.

On the 21st, when I first saw the patient I prescribed two grain doses of acid carbolic every two hours, and on the 24th, when the temperature went to 106, the dose was doubled. On the 25th the double dose was repeated every hour. As I have said, I regarded the case as hopeless from the first, and did not order injections, for, with a temperature at 106°, it appeared useless; indeed, a fatal issue seemed imminent in a few days. All through the urine was normal in appearance, and the motions were not darkened in color. There was no rupture of the perineum, so that it is highly probable that infection was carried from without. I cannot see that the recovery was due to anything else than the carbolic acid, and considering that the uterus or vagina were never once washed out, I think it speaks highly for the remedy and that it is well worth a trial in similar cases.—Geo. Fourquemin, M.D., in *Hosp. Gaz.*

OIL ENEMATA IN CHRONIC CONSTIPATION.—Dr. Fleiner distinguishes two varieties of chronic constipation, viz., the atonic and spasmodic. These two forms of chronic constipation are sometimes found combined. The lower half of the large intestine is then in a state of spasmodic contraction, while the upper half is atonic and distended with gases and fæces. The distinction between atonic and spasmodic constipation is of the highest importance as regards treatment. Electricity, massage, and laxatives, which are so efficacious against the former, not only fail in the latter, but are actually harmful, for the spasm of the intestinal wall is increased by the irritation produced. Better results are obtained in some cases from the administration of narcotics, particularly belladonna and hyoscyamus, and of warm injections of infusion of

chamomile, peppermint, anise, etc., but these means also very often prove inefficient. Olive oil injections, however, constitute a ready and safe way of relieving even the most obstinate cases of spasmodic constipation. The oil exerts a stimulating and soothing action on the intestine. It can also be used in cases of atonic constipation, but as this is relieved by other means of a still simpler kind, the injections are especially indicated in cases of mixed and spasmodic constipation. For purposes of administration, Professor Fleiner employs a cannula with a bulbous end, similar in appearance to an ordinary vaginal tube, and large enough to allow of the easy discharge of the oil. The cannula is connected by means of a flexible tube with a syringe containing about fifteen ounces of pure oil. The patient is made to lie on his back with the pelvis elevated, the cannula is introduced, and the oil injected slowly. The operation usually takes from fifteen to twenty minutes. The cannula need not be passed very high up the rectum, for, by placing the patient in the position above described, intestinal pressure is lowered and the oil is, as it were, aspired by the intestine. For some time after the injection the oil gives rise to no sensation whatever, but after a while the patient feels a desire to pass wind. There is no pain if pure oil is used. At the end of a few hours, in the morning if the enema was administered at night, a more or less abundant evacuation is produced which contains only half the quanity of oil injected. The remainder is retained and gradually passed in the course of ten days or a fortnight. The injection is repeated daily until the intestine is cleared of its contents. Two or three enemas are usually sufficient for that purpose. When this has been done, the effect is kept up by means of an injection of about ten ounces of oil at intervals of a few days. When the intestine is very much distended with fæces, the first injection may not succeed in moving the bowel. In such cases an enema of water is given a few hours after the injection. Nothing but pure oil of good quality should be used, that is to say, oil free from all rancid and acid principles which are apt to give rise to colic. Needless to say that the apparatus should be kept scrupulously clean. After each operation the tube and cannula are cleaned by washing first with alcohol and then in water. Apart from chronic constipation, which is so frequently met with in neurotic subjects, in anæmia, and various gynæcological affections, oil enemata are also very useful, according to Professor Fleiner, in the treatment of membranous colitis, in typhlitis, rectal inflammation, and intestinal disturbances connected with diseases of the stomach.—*Med. Week.*

Locomotor Ataxia Caused by the Use of Morphine. — At the meeting of the society of German naturalists and physicians (*Wein. Klin. Wöchensch.*), Althoff reported that he had observed a peculiar ataxic phenomena in dogs that had during a long period received subcutaneous injections of morphine. The reason he found to be a degeneration of the posterior columns of the cord in the dorsal region. Specimens were shown. The color of these columns is gray to the naked eye. Microscopically there was found in them complete or almost complete absence of axis-cylinders, consequently degeneration of the same. This is the first instance in which a system disease of the cord has been artificially produced in the dogs, and at the same time explains the existence of tabetic symptoms in many instances of morphine habitues. —*N. Y. Med. Times.*

A New Use for the Spleen.—Drs. Pizzoni and Pattani, have, through experimentation upon animals, discovered that the spleen is a necessary factor in the production of immunity from infectious diseases. Guinea-pigs, from which the spleens were removed, were found to become permanently incapable of being rendered immune to the virus of tetanus. This discovery may have a marked influence in clearing up some of the mooted questions relating to immunity. It may be possible that this organ becomes the store-house of the various anti-toxines produced during the course of the infectious diseases. The fact that this organ enlarges during the course of this class of diseases might serve as a clew from which valuable facts can be obtained. Our ignorance concerning the functions of this ductless gland makes the organ a promising field for study.—*Cincinnacti Lancet-Clinic.*

Fistula in Ano.—Dr. Joseph M. Mathews, in *International Journal of Surgery*, says: As far as diagnosticating fistula in ano is concerned, that is quite an easy matter, but to tell exactly the character of the fistula we have had to deal with is quite another thing. An operation that will cure one fistula will not cure another. Therefore no general rule will apply to these cases. There are several things to be taken into consideration in properly diagnosticating or prognosticating a case of fistula.

1. Is it a simple fistula, and has it not but one channel?
2. Is it a progressive or non-progressive fistula?
3. Is it due to any special diathesis, as tubercular, syphilitic, etc.?
4. Does it exist as a disease *per se*, or is it the result (secondary) of stricture?

These are essential considerations and will decide the method of operating and after treatment and the prognosis.

To illustrate: If the case is one of simple fistula with but one channel, a division of tissue, either by knife or ligature, will effect a cure.

If it is a progressive fistula with a great discharge of pus and rapid breaking down of tissue, an operation *by the knife* should be advised at once. If it is non-progressive, no hurry need be had and the patient can adapt himself to circumstances. If the disease is due to any special diathesis, such diathesis must be ascertained in order that the proper medical, as well as surgical, treatment can be afforded. Indeed, upon this is decided the question whether an operation is warranted at all. If the fistula be secondary to a stricture of the bowel, no operation is permissible until the strictural condition is righted. I consider, therefore, that these are points of much more significance than to determine whether the fistula be an external, internal or complete one. It has often occurred to me that the authorities put too great stress upon this division of fistula. It matters very little to the surgeon who is going to operate which variety he is going to deal with, for he is going to do pretty much the same operation in all. It is the complications that concern him, not this kind of division.

CALOMEL IN HYPERTROPHIC CIRRHOSIS OF THE LIVER.—Dr. Sior advocates the calomel treatment in this disease. He relates the case of a man, aged thirty, who began to suffer nine months previously from jaundice, which steadily increased and was accompanied by much loss of strength. On presentation he was deeply jaundiced. The liver was much enlarged, Its surface was regular, somewhat hard, and not tender. The spleen was also enlarged. There was no ascites or œdema. The urine was deeply bile-stained, but the stools were not completely colorless. The temperature rose slightly in the evening. There was no history of alcohol. Various forms of treatment, including potassic iodide, were tried for a month, but without the slightest benefit. The patient was then given calomel, of doses of a little less than one grain, six times a day for three days, the drug being then omitted for the three following days. From this time the patient's condition commenced to improve. The jaundice soon began to diminish and the appetite was better. Eventually even the liver became less in size, as well as the spleen. After three months of such treatment, the jaundice had disappeared, there was no bile-pigment in the urine, and the stools were pale yellow in color. The liver only extended one finger's-breadth below the ribs in the nipple line, the upper limit of the dullness beginning at the sixth rib. The nutrition was excellent, and the strength good.—*Berliner klinische Wochenschrift.*

TREATMENT OF EMPYEMA.—The author advocates resection of a rib. The best location is the sixth and seventh rib, the same rule governing the location that pertains in the operation of thoracentesis. A long incision is made over the rib, dividing the periosteum and separating it from the rib. After this a curved periosteotome is passed under the rib, riving off and separating the periosteum from beneath the rib to the extent desired, when the rib can be divided by a strong pair of bone forceps. Repeat the process over a second rib, the parietes of the chest still remaining intact.

Now make an opening and counter-opening at each end of the wound and insert a large drainage-tube, thoroughly evacuating the purulent contents of the sac. Follow this by a thorough irrigation with a weak antiseptic fluid. Then close the wound intervening between the opening, and fasten the ends of the tube to each other across the bridge thus formed. Encase the sides with an abundance of antiseptic gauze overlaid with cotton and other gauze and the operation is complete.

Daily dressing, including thorough irrigation and perhaps washing out the cavity with peroxide of hydrogen, replacing the tube from time to time by one of smaller calibre, with such sustaining and and antipyretic treatment as seemed necessary, has proven in my hands very satisfactory in several instances.

The object of the exsection in empyema is to allow the chest wall to collapse as do the walls of an abscess in portions of the body not encased by osseous structure. Now, if there be no disease of pulmonary tissue and it is not rendered incapable of expansion by lung pressure this result will be accomplished. If, however, the lung does not expand and perform its function, the result must be a failure.—*Pacif. Med. Record.*

GUAIACOL SALTS IN TUBERCULOSIS.—Of drugs advocated for the treatment of pulmonary and other forms of tuberculosis, creasote is one of the best. Its only equal, indeed, is iodoform. Some patients, however, possess or acquire an intolerance (subjective or objective) to creasote, whatever method of abministration be tried.

In such cases, guaiacol carbonate or guaiacol benzoate may be advantageously substituted. These are unirritating and almost tasteless. The dose of either salt is from 3 or 5 grains (0.2 to 0.35 gram) up to the point of tolerance. An affective dose is 5 grains, four times a day best, given in capsule or cachet after food. As guaiacol benzoate is split up in the small intestine into benzoic acid and guaiacol, it seems to have an especial advantage in the treatment of intestinal lesions, and is certainly quite useful in the management of diarrhœa in tuberculous subjects.—Dr. Solis-Cohen, *Med. News.*

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THE TREATMENT OF ANÆMIA.

The diagnosis of anæmia as a symptom or associated condition is easy; the recognition of it in those cases when it is a disease is a difficult matter, and upon this diagnosis of the cause depends success in treatment. Hume Osler's classification of anæmias into primary and secondary, is a most helpful one. Of the primary anæmias three are not uncommon, one of them the most common of all, the chlorosis of females, the simple anæmia of bad hygiene, insufficient food and clothing, etc. (though this might in one sense be called a secondary anæmia), and pernicious anæmia. The secondary, or symptomatic, anæmias are due to hæmorrhage, from traumatism or gradual, *e.g.*, from menorrhagia, piles, etc.; to drain of albuminous fluids, *e.g.*, in lactation, Bright's disease, chronic dysentery, or prolonged suppuration; to malignant disease; to prolonged dyspepsia and its accompanying starvation; to acute illness, particularly of the septic type, in which by toxalbumins and defective elimination on account of fever, serious blood dyscrasia is caused, and in a similar way to metallic poisoning, and certain constitutional diseases—such as syphilis and malaria, as well as such chronic diseases as pulmonary tuberculosis.

The treatment must be: 1, Dietetic and Hygienic; and 2, Medicinal. As regards dietetic treatment, the indication lies in the fact that digestive troubles nearly always complicate the case, and if constipation does not exist the physician may consider himself fortunate. The foods given should be nutritious, plain, and moderate in quantity, but often repeated, of animal origin rather than farinaceous, fatty or sweet. Rest is important. Early retiring, late rising, with a hot cup of cocoa with plenty of milk, or beef peptonoids, beef-cacao, or some such rapidly absorbable nutritious food before leaving the bed; then a late breakfast, in which animal food of some kind is given, a soft-boiled egg, an omelet, a small, lean chop or steak not over-done; then the noon meal, luncheon or dinner, vegetables being limited somewhat and meat given again; after light open-air exercise, or sitting in the fresh air, a cupful of some nutritious fluid, *e.g.*, an egg-nog; the evening meal, again small in quantity but nutritious, and including nitrogenous food; a quiet evening and early to bed. In the case, at any rate, of the chlorosis of school-girls, some such regimen should be strictly enforced. The capricious appetite of the patient should be specially borne in mind and guarded against, and, if the case be extreme, absolute rest in bed should be secured, if necessary, for a month.

The good effect of baths should not be forgotten. If power of reaction be very feeble, a rub with a dry towel makes a good beginning. Then use a damp and salted towel, then the warm Sitz bath with a spongeful of cool water after it, and then a rapid rubbing and drying, the patient returning to bed and taking the cupful of warm nourishment above mentioned, to secure full and prompt reaction after the bath. The skin circulation may thus be much improved, and the good effect of fresh air and sunlight upon the blood much enhanced. Of course, baths without very prompt and permanent reaction are bad. Hot baths are debilitating and undesirable.

2. Medicinal treatment.—Except in pernicious anæmia, when arsenic seems alone to have any effect, iron is *par excellence* the remedy. The theory is now widely taught that only the organic salts of iron ingested with the food are of any direct service to the hæmoglobin, and that the intestinal fermentation, which accompanies anæmia and constipation, and which, indeed, Sir Andrew Clark considers to be the chief cause of chlorosis (*copræmia*, or fæcal poisoning of the blood), causes the presence of hydrogen sulphide in such quantity that all the organic iron disappears from the

system in the form of iron sulphide in the fæces. The administration of inorganic salts of iron in excess is believed to spare the organic iron for the use of the system. The difficulty is to secure an eligible form of iron for each given case, and each practitioner is apt to fall into his own routine. The chloride, in some form, is by many considered the best, and if given in teaspoonful doses of a 2% to 5% aqueous solution of the salt in egg-water (one part white of egg in four or five parts water) an albuminate of iron is administered which will be found acceptable to a very fastidious stomach.

Blaud's pill, especially in the modified white sugar-coated form, in which it may now be obtained, with arsenic added, is a most useful pill, especially if given after Niemeyer's fashion, one after each meal the first day or two, then increasing one pill a day till two are taken after each meal, of either the 3 gr. or 5 gr. pill as the case may seem to need. With many the scale preparations of iron are favorites, and may be given in mixtures, which many patients prefer to the pill. Constipation may be met by cascara, in liquid or pill form, or by the aloin, belladonna and strychnine pill.

Allusion should be made to the old treatment of small, repeated venesections, which some of the journals are just now mentioning again, with cases of alleged success. Its supporters claim that heightened arterial tension is a constantly associated condition, whether as cause or effect does not appear to be settled, and that venesection is therefore indicated. It may be that the hæmopoietic system, when relieved of the faulty blood, may find an opportunity to gradually replace the degraded fluid with a newer and more normal substitute, which is not at once lost in the large volume of poor blood as soon as formed, as may be the case when bleeding is not practiced.

ISOLATED TUBERCULOSIS.

A very peculiar case of isolated tubercular pericarditis was reported at a recent meeting of the medical society of Berlin by Professor Virchow. In his experience, according to the *Medical Press and Circular* for December 21st, 1892, isolated pericarditis of the tubercular variety has been a rare occurrence. He met with his first case years ago when he resided at Warsburg, and he now remembers that it surprised him not a little that the patient, a man of eighty, manifested no other sign of tubercular degeneration. Subsequent cases of this disease have been of a like nature in this respect. Many of the cases, perhaps the majority of them, showed the remarkable complication of extensive pericardial hæmorrhages, as if a rupture of the heart had taken place.

The present case was that of a robust man from Sakwedel. He had enjoyed good health until about eight weeks prior to coming under Virchow's observation. His attack began with a severe chill. About five weeks later he was taken to the hospital, where the diagnosis of hydropericarditis was made. There was dyspnœa, but no fever, with œdema of the legs, and ascites. This otherwise powerful man had given no evidences of renal disease, of cancer, or of tuberculosis. At the autopsy the pericardium and pleura were found to contain fluid; that of the pericardium was hæmorrhagic. The surface of the heart which was considerably hypertrophied, had the appearance of having been the seat of a frequently recurrent pericarditis. On a more thorough examination of the cut surface of the heart an enormous eruption of tubercles was seen in the deeper tissues of the pericardium, and the heart's muscular structure itself. The tubercles were full of giant cells, unusually large, but there were comparatively few tubercle bacilli.

The origin of the disease—which was one of the first to lead Virchow to dispute the old prevalent doctrine of dyscrasia in the causation of tubercular disease—he held to be local in the pericardium; his opinion is that the disease may begin in a non-specified inflammation of the serous membrane. After a time adhesions and sclerotic conditions occur, and the marked tissues become highly vascular.

The next step is a hæmorrhage and the tubercular degeneration occurs. The affection must then be set down as a typical local, and non-dyscrasic, tuberculosis. Virchow had, from his first case of the kind, formed such an opinion, but the full explanation of it did not come to him until later.

PERSONAL.—Dr. McDonagh of Church St. will be out of town for two months from June 15th.

ONTARIO MEDICAL ASSOCIATION.

It is to be hoped that the members of this Association will not allow the attractions of a World's Fair in a Pan-American Congress to prevent them attending as usual the annual meeting of their own Association, which takes place in Toronto on the 21st and 22nd of June.

To allow of more time for discussion than at last year's meeting, the Committee on Papers have arranged for fewer papers this year, so that ample time may be available for discussion of the interesting papers. Another feature which the Committee hope to arrange for, is a "Hospital Visit," to take place on the afternoon of the second day, when a series of interesting cases may be brought to the attention of the members by the representatives of the staffs of the General Hospital and the Hospital for Sick Children. Full particulars of this will appear on the preliminary programme which will be issued about the 10th of June.

The list of papers, so far as is known, is as follows: "Discussion on Cholera," led by Dr. Arnot, of London; "Appendicitis," led by Dr. Howitt, of Guelph; "The Management of Abortion," led by Dr. R. W. Powell, Ottawa; "On Blood-Letting," led by Dr. Harrison, Selkirk; "Gonorrhœal Ophthalmia," by Dr. Osborne, Hamilton; "Resection of Bone," by Dr. Gibson, Belleville; "A Case of Acute Simple Meningitis," by Dr. Acheson, Trenton; "The Treatment of Diphtheria," by Dr. Wilson, Richmond Hill; "Massage—Its Application in General Practice," by Dr. Holford Walker, Toronto; "Diphtheria—Cause and Treatment," by Dr. Milner, Toronto; "The Failures and Successes of Bromoform in the Treatment of Whooping Cough," by Dr. Duncan, Toronto; "The Prevention of Tuberculosis in Ontario," by Dr. E. H. Adams, Toronto; "Acute General Peritonitis, Laparotomy, Neurotomy," by Dr. A. McKinnon, Guelph; "Deflection of the Nasal Septum and its Surgical Treatment," by Dr. E. A. Spilsbury, Toronto; "Mistakes in Midwifery," by Dr. J. Noble, Toronto; "The Treatment of Hernia by the General Practitioner," by Dr. W. B. DeGarmo, New York; "The Nature of Fever, with Remarks on some of its Phenomena and its Treatment," by Dr. J. K. Holmes, Chatham.

Papers have also been promised by Drs. Hunt, of Hawkesbury, Cotton, of Lambton Mills, Primrose, McPhedran and Myers, Toronto.

The Committee appointed to confer with the Registrar General will not be called together before the meeting of the Association, as it was found to be impossible to reach the Bill at the present session of the Legislature.

THE ONTARIO MEDICAL COUNCIL.

The medical *quæstio vexata* which has been before the Ontario Legislature during the present session is at last settled, and white-winged peace may be expected to dwell forevermore in the halls of the college building in Temperance St.

The matter has been so thoroughly brought before the notice of the profession that we need only note the changes which have been made in the Medical Act, as the result of the efforts of the Medical Defence Association. These are in effect, (*a*) the election of five additional territorial representatives making the number seventeen instead of twelve as formerly, (*b*) the members are to hold office for four years instead of five, (*c*) the taxing of the profession is to be relegated entirely to the territorial representatives, (*d*) the next election is to take place in 1894.

AN EASY METHOD OF REDUCING DISLOCATION OF THE HIP. — Bird (*Australian Med. Jour.—Therap. Gaz.*) states that ordinary dislocation of the femur are not always easily reduced, even when seen soon after the accident. In difficult cases he has adopted the following procedure with success. If the left be the injured side, the patient's left lower extremity is placed over the surgeon's right shoulder, so that the under surface of the bent knee is closely applied to the shoulder, and the leg hangs down the surgeon's back. The foot is then hooked under the front of the surgeon's left elbow. Great leverage can now be exerted on the head of the bone, the patient's pelvis being steadied by an assistant. The surgeon, raising his body, lifts the patient's whole lower extremity, with, if necessary, the expenditure of considerable power, so that the head of the bone is lifted out of the nidus in which it is resting. This leaves the right hand of the operator free to help the now

easily moved head of the bone into the socket. Bird found this plan very useful in a case in which the head of the femur had slipped into the sciatic notch. In this case there was hardly any shortening, and much more than the usual amount of movement. The ordinary methods of reduction failed, probably because enough power could not be brought to bear on the head of the bone to unhook it from the sciatic notch. In cases of dislocation on the dorsum, this method is also useful, but it is desirable in such cases to place a hard pillow under the patient's buttocks, in order to make the traction in the right direction.

MENTAL DISSOLUTION.—Dr. Savage recently read a most interesting paper (*Am. Pract. and News*) on "The Symptoms of Mental Dissolution." He excluded all tables relating to patients over fifty years of age, as such cases only showed the way in which senile dissolution occurred. Dr. Savage said that his seventeen years' experience at Bethlehem showed that dissolution was early shown by loss of power of acquisition, then by loss of power of retention of recent impressions, next by defect of co-ordination, and last of all by loss of control and of judgment Although, generally speaking, dissolution was the reverse of evolution, it did not follow exactly the same lines. He first treated of dissolution as seen in general paralysis of the insane, passing on to consider disorders of control of a general kind, such as hysteria, epilepsy, mania, melancholia, and dementia, taking the groups of symptoms before the individual ones, and particularly noting the danger of impulse in the maniacal, suicidal and melancholic states. Of the individual symptoms loss of recent memory, varying in degree and kind, was the most important. Loss of emotional control was next in frequency, and was most important as leading to sexual faults. He was unable quite to understand the disregard of cleanliness in such cases. Judgment often remained practically unimpaired long after the memory had visibly weakened. Referring to the recurrence of epileptic fits in elderly persons which were formerly looked upon as of grave import, they were now known to be curable by rest, quiet, and diet.

SULPHO-CARBOLATE OF ZINC IN TYPHOID FEVER.—Dr. Ernest B. Sangnee, (*Times and Reg.*), says: There is here a long, large, and filthy, alimentary canal to be disinfected; consequently, whatever anti-septic is used, I think that all should be given, the organism will stand. With the sulpho-carbolate of zinc, I am in the habit of giving to an adult five grains every three or four hours, until the temperature falls. So far, I have invariably found that, in from twelve to thirty hours the temperature falls from one to two degrees. Of course, I do not allude to the morning subsidence, I mean a positive reduction. The sulpho-carbolate of zinc, I believe, is not claimed *per se* to have antipyretic qualities. If such is the case, how else can the invariable lowering of the temperature be explained than on the ground that a portion of the irritation is removed? And, as we believe microörganisms to be the source of the irritation, it must be that some of them are either killed, or that the amount of their life activity is lessened. By lessening the amount of irritation, we lessen the amount of poisonous ptomaines thrown into the system, and thus conserve a portion of the patient's vitality that would otherwise be lost. By this means we are more likely to keep him alive until the bacilli have run their course, because they have rendered their host unfit soil for further development. The likelihood of tiding our patient over the critical period is thus enhanced, and the probability of restoring him to health and strength greatly increased.

HOW SHOULD A SPRAINED ANKLE BE TREATED?—Distortion of any joint must be looked upon as a serious injury (*Jour. of Mat. Med.*) which, if carelessly treated, frequently leads to dire result. Nor does this depend upon the existence of germs in the blood of the injured, but upon the direct effect and consequence of the injury. The immediate result of a sprain where tissue has been torn is intra-articular hæmorrhage, which may be slight or of moment. Intra-articular hæmorrhage leads to intra-articular tension. The latter not only causes severe pain, but the pressure exerted upon nerves and contiguous structure endangers nutrition. If to this is added unlimited motion, there is intensification of pain, inflammation and exudation, and disintegration of inflammatory products. (Mycotic invasion, if you please.) Hence, rest is the immediate indication, and cold applications (ice) to reduce inflammation and prevent hæmorrhage. Should the case be seen when intra-articular ten-

sion presages mischief, nothing is better than to trocar, aspirate, or to make subcutaneous puncture. When ice or puncture have relieved immediate symptoms, immobilization should be complete; this is to be secured by plaster of Paris bandages. It is always unwise to immobilize before the full extent of swelling has been reached, else trouble will occur and the anxieties of the patient will result in calling another physician. With swelling reduced and the joint immobilized, how long shall joint fixation last? Until every vestige of inflammation is removed. How can this be determined? By point pressure on the environs of the joint.

NARCOSIS IN OBSTETRICS.—Dührssen, (*Berliner klin. Woch.*), states that an anesthetic is of great value from a diagnostic as well as a therapeutic standpoint. The patient is often much excited, and can be quieted by a few drops of chloroform, while certain important factors are being ascertained, such as the frequency of the fœtal heart sounds. Often in primiparæ it is only by the aid of anæsthetics that the obstetrician can assure himself whether the head has already entered the pelvic cavity. Anethesia is valuable for the prompt diagnosis of occipito-posterior and tranverse positions. In those explorations where the entire hand must be introduced into the cavity of the uterus, anæsthetics are indispensable. Therapeutically, anæsthesia is needed for turning, especially in combined and external version, for detaching adherent placenta, manual removal of ovum and membranes in abortion, reposition of impacted tumors during birth, the management of prolapsed foot in breech presentation, and turning in incomplete dilatation of the os in multiparæ. In irregular contraction of the uterus, chloroform often hastens labor. Dührssen considers sepsis a contra-indication for anesthetics, and deep or long-maintained narcosis as dangerous in cases of eclampsia. It should only be induced in such cases to facilitate rapid delivery by operation. Tetanus uteri is also a contra-indication. In acute anæmia a very little chloroform will take effect. When chloroform is given Dührssen advises the obstetrician to get the patient well under, and then to leave the mask in charge of the midwife, who must, from time to time, pour a few drops into it.

THE PRESENT POSITION OF ANTISEPTIC SURGERY.—From time to time it is not only interesting, (*Ex.*) but is also a necessity to take an occasional retrospective glance through the near past, and, as it were, compare notes and see where we stand. Just now, that sufficient time has elapsed, we may inquire: What is the precise, definite position of antiseptic surgery? The medical side of the question we will give our attention to later. We believe, from what can be gathered from the latest literature on the subject, that antiseptic surgery, as taught and practiced as recently as five years ago, is now something of the past. When Lister introduced the spray, and argued with great force the importance of purifying the atmosphere of the operating room, and seeking out the stray germs, lodged in sundry recesses of one's apparel or surroundings, Lawson Tait, with stinging sarcasm, recommended that the nozzle of the apparatus would do the most good when pointed out through the window. The spray went. Reports commenced to come in that antiseptics must be eschewed in the surgery of the peritoneum. It was discovered that traumatisms penetrating the skull and involving the brain, when treated antiseptically, were attended with a terrible mortality, through a consecutive, irritative meningitis. Antiseptic irrigation of the pleura, in empyema, is no longer employed by French surgeons. Bichloride solutions, when used in amputation, though they favor prompt union, are said to cause, very often, painful, useless stumps, through an insidious osteo-myelitis which they excite in the cellular elements of the cancellus bone substance.

DENTITION FEVER.—Müller says that there is a great difference of opinion now existing as to whether there is really a fever depending upon the dentition or not. He believes, from observation, that certain cases of ephemeral fever occur, in which the most scientific examinations fail to show lesion, except eruptive teeth, and the fever rapidly disappears upon lancing the gums. The following is his method of gum-lancing: An assistant fixes the shoulders and legs of the child, while a second fixes the head. The index finger of the left hand is pushed between the jaws, and the tongue pushed somewhat aside. Then with a scalpel laid flat on the tooth he cuts off the little cap surmounting the point of the tooth (this can be easily discovered by the paler character of the gum in this position), or he makes parallel or cross cuts over the top of

the tooth, thus excising a small portion of the gum. If the scarification is done in this manner, the point of the tooth will remain free, and a scar will not form over it. The mother is directed to wash the scarified surface several times daily with a soft cloth wet in carbolic acid solution, to prevent infection and prevent the healing of the cut. The amount of blood lost is insignificant. The little operation will always relieve the child when the diagnosis is correct. It is not to be done, however, unless the physician is certain that no other cause for the fever exists.

TREATMENT OF ULCERS BY STRAPPING.—Dr. C. E. Quimby advocates this method of treatment, which is carried out as follows:

1. Adhesive straps should not be over one inch in width, and usually a narrower strap is to be preferred.

2. Straps should be as short as is consistent with a firm hold on healthy skin, and should never fully encircle the limb.

3. All straps should be applied at *right angles* to the long axis of the ulcer, subject to slight modification by the direction of greatest cutaneous elasticity, and are to be adjusted in two sets.

First set:

4. These straps are applied in the usual manner by fixing one end on healthy skin and approximating the edges of the ulcer as the other end is applied and fixed.

5. The first strap of this set should *bisect the ulcerated surface.*

6. Each succeeding strap of this set should bisect uncovered ulcerated surfaces.

7. As any strap becomes loosened, one end should be freed and reapplied under appropriate tension.

DIET IN OBESITY.—Dr. Towers Smith (*Med. Times*) gives the following rules:

First Period, Fourteen Days.—Breakfast: Tea or coffee, with saccharin, if desired, in lieu of sugar; bread or biscuits made from soya bean, two ounces; grilled white fish or red meat, kidneys. Lunch: Cut from joint of beef or mutton, taking no fat, and one helping of green vegetables, avoiding only peas, beans, and all roots; soya bread or biscuit, one ounce. Dinner: Clear soup, white fish, red meat, green vegetables as lunch; soya bread or biscuit, one ounce.

Drink.—First thing on waking: Tumbler of hot water with slice of lemon. 11 a.m.: Cup of bovril or clear soup. Lunch: Two glasses of claret or one ounce of whisky with potash water. 5 p.m.: Cup of bovril or clear soup. Dinner: Two glasses of still hock or claret, or whisky or potash. Bedtime: Cup of bovril or clear soup. Mustard, pepper, salt, Harvey's sauce, may be taken.

Second Period, Twenty-one Days.—Addition to No. 1: Oysters, tongue, stewed fruit, with saccharin; poultry, game.

Third Period, Thirty-one Days.—Additions to No. 2: Toast instead of soya bread, for each meal, two ounces, savory jellies, aspic of prawns, plovers' eggs, jelly. Dessert: A small quantity of fruit; blue-mould Dorset cheese.

CHOLERA AND FRUIT.—We notice that the Imperial Health Office at Berlin has issued a notice to the effect that bacterological research has been made to show what dangers of cholera, if any, arise from the importation of fruits from the Mediterranean. It has been demonstrated that the cholera spirillum is destroyed in a few hours after being in contact with the cut surface of a lemon or that of an orange.

The spirilla retain their activity, for a longer time, however, on the uninjured exterior of the fruit but do not survive more than 24 hours.

This shortened vitalily of the micro-organisms is believed to be due to the high acidity characteristicof these fruits. There will be no restriction placed upon the sale of the fruit, even if brought from districts where cholera has been prevalent. There is no authentic account of a single case of cholera having been conveyed by means of either oranges or lemons.

TUBERCLE BACILLI IN LYMPATHIC GLANDS.—Pizzini reports *Boston Med. and Surg. Jour.* a series of experiments which show that virulent tubercle bacilli may exist in lympathtic glands of persons showing no other tubercular lesions. These glands taken from persons who died from different diseases were inoculated into guinea-pigs, and it was found that in forty-two per cent. tubercle bacilli were present in the glands. The author believes that tubercle bacilli may readily pass through the epithelial lining of the air-passages, reach the lymphatic glands and there remain.

quiescent, preserving, however, their virulence and in condition at any time to infect other tissues. The bronchial glands were by far the most commonly affected. In no case did he find any bacilli in the mesenteric glands.

THE RELATION OF PELVIC DISEASE TO PHYCHICAL DISTURBANCE IN WOMEN.— George H. Rohè, reported to the recent meeting of the American Association of Obstertricians and Gynecologists the results of his examination and treatment of pelvic diseases among insane women in the Maryland Hospital for the Insane. Upon the supposition that mental disorders, while not necessarily dependent upon the existence of previous pelvic disease, may be aggravated by such a condition, thirty-five woman were subjected to a vaginal examination, and of this number twenty-six were found to be suffering from some form of pelvic disease or abnormality. In some cases that were not examined nor suspected of having disease of the genitals, an autopsy revealed such lesions. Eighteen cases were selected for operation, and the majority of these had the appendages removed. Sixteen of these cases recovered from the operation, three of them have been discharged from the hospital apparently well both physically and mentally. In ten considerable improvement followed the operation in both physical and mental conditions, and in three the operation was of too recent date for the expression of any conclusions. Apropos to the above report may be mentioned the fact that similar treatment has been extended to some of the inmates of the Norristown Asylum (*Med. and Sur. Rep.*, and among thirty patients examined by Dr. Maria B. Werner, the great majority had positive and easily recognisable disease of the pelvis, some cases requiring prompt operative measures. While the mental condition of some patients has not been at all improved by the cure of pelvic disease, on the other hand some insane women have been restored to their normal mental condition, and whatever may be said pro or con about this procedure, the result seems to show the truthfulness of Dr. Rohé's concluding remark, that we are required "in the name of science and humanity to give to an insane woman the same chance of relief from disease of the ovaries and uterus that a sane woman has.

FEEDING IN FEVERS.—Peabody, (*Med. Rec.*) believes that in all kinds of illness, and especially in fevers, attention must be paid to the appetite and desire of the patients. If a patient is really hungry, solid food of a properly-selected kind, and in judicious quantities, will rarely disagree with him. He believes there is less danger in doing harm to an ulcerated ileum in typhoid fever by giving finely divided egg, beef or chop, than by giving milk. He habitually gives his patients with typhoid, who are hungry, such food. He believes it is a mistake to withhold solid food merely because a patient has fever, and that it is incorrect to regard milk as a fluid food. Milk will always remain the most serviceable general food in disease, but where it fails to nourish the patient, where it is not well borne, where it cannot be taken for any reason, it is well to remember that efficient adjuncts and substitues are within reach.

THE TREATMENT OF DELIRIUM TREMENS.—Lancereaux (*Bulletin Medical*), maintains that the first indication in the treatment of a case of delirium tremens is to control the excitement, which is dependent upon the toxic action of the alcohol upon the nervous system and is responsible for the sleeplessness, and sometimes for a fatal issue. The patient is to be isolated and, preferably, placed in a dark room, so as to be removed from all sources of irritation. Of drugs, bromine is uncertain in action, and opium and morphine are efficient only in large doses; chloral hydrate, on the other hand, is certain and prompt in action. From sixty to ninety grains are at once given, together with a little morphine. If sleep do not set in in the course of ten minutes an injection of a sixth or a third of a grain of morphine is given. If necessary the dose of chloral may be repeated after the lapse of three hours. Subsequently the interval may be prolonged. When the acute manifestations have subsided, strychnine or nux vomica is to be administered. Sodium bicarbonate may be required for the gastric condition and hydro-therapeutic measures for the general condition.

A SIMPLE PROCEDURE FOR THE DEMONSTRATION OF TUBERCLE BACILLI IN SPUTUM.—P. Kaufman (*Centralb. f. Bakterial, u. Parasitenk.*,) 1892, Bd. xii., No. 4,5: The cover-glasses are prepared as usual, and stained with hot carbol-fuchsin. After this they are washed in boiling water from one to five minutes. By this washing the other

microörganisms are decolorized, and a clear, beauful picture remains.

The bacilli are not injured or altered in form by this method as in those in which strong acids, etc., are used. The methods is not recommended for sections of tissues, because of the swelling and coagulation which the boiling water causes. The simplicity of the method certainly recommends it to the practitioner.

DIGITALIS IN PNEUMONIA.—Strzover, (*Meditzinshoe Obozrenie,*) reports concerning the abortive treatment of croupous pneumonia by large doses of digitalis.

The preparation used was the infusion of digitalin leaves 2 vel 4:200, simple syrup 30, a teaspoonfull to be given every half hour, the whole to be taken in twenty-four hours.

In the writer's nine consecutive cases under this treatment, temperature fell on the day following the beginning of the treatment from 40 to 38° C., and the subjective phenomena markedly improved, the patient feeling practically well.

In the incipient stages the lungs became free from abnormal signs in a day or two, while in more advanced cases complete resolution was brought about on the seventh day. In none of the cases were there any toxic manifestations.

DIPHTHERIA AND ITS RELATIONSHIP.—As a curiosity of the current literature, the following extract is made from an article by Leibig, in the (*N. Y. Med. Rec.*) "The organism, diphtheritic, reaches the human economy by means of uncooked food, perhaps also in water, in the form of a small, insignificant larva, and here begins the progeneration in the production of ova. Diphtheria is caused by a living organism. This may be either winged or unfledged—infecto originalis. The constitutents of true diphtheria consist in spirals, ova, granules, episperm. The so-called membranes * * are chemically and physiologically identical with the factors originally deposited in the intestines, and are partially their products of separation."

MILK DIET IN NEPHRITIS.—From a comparative study of the utility of the milk-diet in the various forms of nephritis, Ralfe, *Lancet*, concludes that the best results are obtained in cases of acute or subacute nephritis in which the diuretic action of the lactose of the milk increases the flow of urine and relieves the dropsy; whilst in cases in which degenerative changes have taken place and the heart is already failing, it is better to give a more solid and more stimulating food than milk, which shall at the same time be easily assimilable and not highly nitrogenous.

SALOL IN THE STOMACH AND INTESTINE.—Dr. Paul Cornet (*Le Prog. Med.*), says as the result of experiment with the above drug: (1) Salol is at first decomposed in the intestine. (2) Salicylic acid is found in the stomach two or three hours after the ingestion of thirty to forty-five grains. (3) Salol is not completely decomposed in the intestine, for some is detected in the feces.

Books and Pamphlets.

AN INTRODUCTION TO THE STUDY OF DISEASES OF THE SKIN. By P. H. Pye-Smith, M.D., F.R.S., Fellow of the Royal College of Physicians, and Surgeon to Guy's Hospital. Philadelphia: Lea Bros. & Co. 1893. Toronto, Carveth & Co.

This handbook is a reprint of the author's chapters on diseases of the skin, written in 1886, to complete the unfinished work on medicine by the late Hilton Fagge. There are some additions made to these well known chapters, which were revised in 1888 and 1889 The author in the present volume has made extensive use of reports of dermatological cases at Guy's, and from the pathological and clinical transactions. The appendix, being new, and formula will be welcomed by all, especially by the general practitioner. The author is so well known that comment on the subject mattes is unnecessary. He has added some diagrammatic wood-cuts to demonstrate the local distribution of diseases of the skin. They are a new feature and will be found very useful. Altogether the work is an excellent one, and we think our readers will be well repaid by the reading of it.

ACCIDENTS AND EMERGENCIES; a Manual of the Treatment of Surgical and Medical Emergencies in the absence of a Physician. By Chas. W. Dullis, M.D., F.C.P., Phila., Physician to the Rush Hospital, etc. Fourth edition, thoroughly revised and enlarged, with new illustrations, Philadelphia: P. Blakiston, Son & Co. Toronto: Carveth & Co., 1892.

A capital little book, not only in the *absence* of a physician, but in his presence. It contains a great many points which nearly every physician and surgeon may read with interest and profit.

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Original Communications.

INFLAMMATION OF THE VERMIFORM APPENDIX—SYMPTOMS, CAUSES AND TREATMENT.*

BY JAMES F. W. ROSS, M.D., TORONTO.

In arranging this paper I wrote down all that I knew of the disease from my own experience. I took up the subject systematically under various heads. I then looked over the literature of the subject, in order to find out whether my experience coincided with that of others. The paper is, therefore, not an exhaustive literary paper, and it is not my intention to make long and tedious quotations from the work of others. Many of the conclusions arrived at from personal experience, coincide with the conclusions of others. Some of my views may not meet with general approval.

Nature of the Disease.—The disease now called appendicitis, formerly known as typhiltis, perityphilitis, paratyphilitis and iliac abscess, and in fact by several other names, is one that has excited much interest in the medical and surgical world during the past ten or fifteen years. From the time that the surgeon was amazed when he found extruded, amidst an offensive discharge of pus in the neighborhood of the right groin, an apple seed or an orange pit, up to the present time, this disease has been a common one, although not properly understood, and very imperfectly treated.

It belongs to the inflammatory group of diseases, and, on account of its origin, affects chiefly the peritoneal cavity. It may affect the whole peritoneal cavity or it may affect but a part of the peritoneal cavity. Inflammation in all these cases appears to originate in the appendix vermiformis, although some cases have been found in which the trouble appeared on *post mortem* examination to have originated in the cæcum. No doubt with any inflammation about the head of the cæcum the appendix may be secondarily affected.

The pathological conditions found are therefore various, and they will be spoken of later on. After one has had a considerable experience with this disease, either on the operating table or in the *post mortem* room, many a case of supposed idiopathic peritonitis will become one of appendiceal peritonitis, or a peritonitis that is really septic in its origin, and the sepsis will be found to orignate in some traumatism to which the appendix has been subjected.

I have yet to see the first case of peritonitis for which a definite cause has not been found upon *postmortem* examination. We are all well aware that the peritoneum must be tolerant to a certain amount of dirt. For instance, I have introduced into the peritoneum of a dog, dirt which has been taken indiscriminately from a back yard, without producing any particular injury to the dog or his peritoneum, but the contents of the bowel are not well tolerated by the peritoneal cavity, and a very small perforation seems able to set up a very great amount of inflammation.

Pathological Anatomy.—The appendix in health, is similar in structure to the tonsil, and, like the tonsil, seems prone to become diseased in childhood, and seems prone to vary greatly in size in different patients. Like the tonsil its function is not known, and we do not yet know why the appendix has been placed where it is in close connection with the cæcum. On account of its peculiar position it is liable to become a receptacle for heavy substances, such as the seeds of fruit, shot, pieces of lead from tinned goods, that have been admitted to the intestinal canal with the food. The opening in the appendix is usually small, but this opening seems to vary in size in different individuals, and, I believe, that if there is anything in the idea that appendicitis may be to some extent hereditary, that this heredity must be explained by the hereditary tendency that may exist to an increased patency of its upper or intestinal end. A father or a mother with very patent appendix, may, perhaps, be able to transmit to the offspring a patent appendix. The very position of the organ renders the ingress of foreign substances easy. There is no other portion of the intestinal canal at which it could have been placed

* Read before the Toronto Medical Society, Jan., 1893.

to admit as easily of the entrance of foreign bodies into its open mouth. I believe, that during the act of defæcation a great amount of pressure is transmitted upwards through the rectum to the walls of the descending transverse and ascending colon, and to the walls of the blind cæcum, and on the walls of the ilio-cæcal valve and over the mouth of the appendix. During the transmission of the fæces from the ilium to the cæcum they pass through the iliocæcal valve. The fæces during their passage are semi-solid in their nature, and on the same principle that the particles of stone drop into the bulb of the lithotrity apparatus during the suction of water from the bladder after a stone has been crushed, the heavy particles of food, such as pieces of lead, bird-shot and seeds, naturally gravitate into the blind pouch of the cæcum, and lie around the opening into the appendix.

Although a large number of people are effected with disease of the vermiform appendix in a lesser or greater degree, it is a wonder that even more are not so affected. The method by which disease of this little organ is produced, has not perhaps been made very clear. I am confident that one form of the disease is similar to the change that takes place in an ovarian tumor after its pedicle has been twisted. After the pedicle of an ovarian tumor has been twisted hæmorrhage takes place into the cyst wall and into the cyst cavity, and, as a consequence, the cyst wall may be thickened and the cyst cavity filled with blood. The appendix derives its blood supply through its mesenteric attachment The mesentery usually extends to a distance equal to about one-half or two-thirds of its entire length. The concretion may be formed in its mouth or in the cæcum around seeds or other foreign bodies, and this concretion, by the act of defæcation and the pressure that is transmitted along the walls of the lower intestine, may be forced into the mouth of the appendix; here it may remain for a long time without producing any bad effect, but, perhaps, during some excessive straining the mass may be pushed onwards a little further into the lumen of the appendix and remain impacted in its new situation. As a consequence of this impaction the veins are pressed upon and a venus congestion is produced. If a marble is dropped into the finger of a glove it will be found to press upon its wall with about an equal pressure throughout its entire circumference. Each little onward movement of the marble towards the tip of the finger will increase this pressure, and it will be found impossible to press the marble to the very tip without tearing the glove finger. The presence of this concretion in an appendix is liable to give rise to an uncomfortable sensation that may become an actual pain, and this sensation sometimes warns the patient that there is something amiss in his inside. The impaction, just like a single twist of the pedicle of an ovarian tumor, may not produce sufficient pressure to completely obstruct the flow of the arterial as well as the venus blood, but a time may suddenly be arrived at when the impaction will produce a sufficient pressure to completely obstruct the supply of blood, and then gangrene of some portion of the appendix will result. When the obstruction is not great enough to produce gangrene hæmorrhage in the wall of the appendix, beyond the impaction may take place, or, owing to the congestion, an increase of the mucus secretion of the organ may take place, and this retained secretion may produce the cystic enlargement of the end of the appendix.

It is difficult to understand how a simple catarrhal inflammation of the appendix can produce any very great change in its structure. This simple congestion may, perhaps, pass into an inflammation and this inflammation may affect the mucus, the muscular and the serous coats. I believe that a gengrene of the appendix may be produced secondarily from a septic inflammation of the veins in its mesentery. Such a septic inflammation may originate at some distance from the appendix itself, perhaps, in some perforation of cæcum. I have noticed the mesentery, in some cases, run to the very tip of the appendix. If such a condition exists the dangers from impaction would be, to a certain extent, removed, because the blood supply would not be so readily interfered with. It would be interesting to observe the condition of the mesentery of the appendix in children as compared with that of the appendix in adults. The canal of the appendix may be completely obliterated by inflammatory changes and a solid cord be produced, or, there may be simply obliteration of the canal of the tip of the appendix while the lumen of the body may be changed into a funnel-shaped pouch, or the

lumen may be obliterated at some point, and a cystic enlargement of the part beyond be found. I have removed such an appendix.

It has been said that many people who are constipated and who eat seeds in abundance escape from diseases of the appendix; this may, perhaps, be explained by the fact that constipation exists. If diarrhœa existed in such patients the motion passing through the iliocæcal valve would be more liable to allow the foreign bodies, by virtue of their weight, to drop into the cæcum, but a constipated motion would be more liable to carry on these foreign bodies into the colon, and, in this way, act as a protection to the patient. We are recommended to give large quantities of mashed potato to children who swallow coins in order that the coin may be incorporated in the mass of potato and carried on into the small intestine.

Appendicitis has been found to occur more frequently in children than in adults. I imagine that this is just a survival of the fittest. The children who have appendices with patent mouths and who are allowed to eat the seeds of all kinds of fruit are not as likely to reach adult age as those children who have an appendix with a small lumen. The middle third of the appendix has been found sloughed through without any evident gangrene of the tip. In such cases I suppose the blood is supplied to the tip by the mesentery beyond the seat of the obstruction, and the tension of the wall of the appendix at the seat of impaction has been very great. The appendix has been found filled with pus. Many cases have been recorded in which no foreign bodies have been found.

At the time of operation or during a *post moriem* examination, a foreign body may be very easily overlooked. They are frequently lost in the pus, and, in such cases, can only be found, even at a *post mortem* examination, after a thorough and systematic search. On one occasion I saw a professional gentleman make a *post mortem* examination on a case of abscess in the neighborhood of the appendix in which he was unable to find any foreign bodies. He was just about to close up the abdomen with the idea that no foreign bodies were present, but one or two who were standing by insisted on a little closer search, and, at some distance from the original perforation, several grape seeds were found lying free in the abdominal cavity. No other perforation except that in the appendix could be found.

I have often thought of the similarity and of the dissimiliarity that exists between an appendix imbedded in adhesions and a fallopian tube filled with pus and bound down in a similar way. I find that others have also thought of this similarity of the two conditions. An appendix when filled with pus and fixed by adhesions is very closely allied to a fallopian tube filled with pus and fixed by adhesions. The walls of such an appendix rarely become thick, the walls of such a fallopian tube frequently become very thick. Such an appendix filled with pus has no fimbriated end through which a leak is liable to occur from time to time. Such an appendix can only leak through some small perforation of its wall, and, when such a perforation does occur, and nature shuts off by adhesions a small portion of the peritoneum in which such pus is pent up, and the knife of the surgeon gives vent to such pus through the abdominal wall, a cure is likely to result.

Etiology.—The etiology of the disease can be best explained by referring to the pathological conditions found. Age seems to have some influence in its production, because it is certainly more frequently found in youth than in adult or old age. Fitz, from his investigations, says that fifty per cent. of the cases were under twenty years of age. The youngest case recorded by him was that of a child ten months old. The disease may, however, be found at three different periods of life. Among my own cases I have seen it in a boy of little over three years old, and I have to-night to show three cases operated upon at different periods of life. One of them, a girl eleven years old, one a young man about twenty-six years of age, and one an old man sixty-six years of age. In the little girl the first attack was the last one, that is, up to the present time; in the young man the first attack was the last one; in the old man a period of fifteen years intervened between the attack for which operation was required and the attack previous.

It has been said that the disease occurs more frequently in boys than in girls; why this should be so it is difficult for us to explain. Whether errors of diet have any great influence in the production of the disease or not is a disputed point. It is now generally believed that it is unwise to eat grape seeds, orange pits, bird shot or, any of the

other foreign bodies mentioned, but still, hundreds of people take into their stomach these articles and do not suffer from appendicitis. Grape seeds are swallowed by a great many people, orange pits are perhaps taken into the stomach without the knowledge of the person who is eating the orange; occasionally plum stones and date seeds will slip down the œsophagus by accident. A plum stone I should consider to be especially dangerous, not only on account of its liability to produce trouble in the neighborhood of the appendix, but on account of its sharp point it would be liable to produce perforation of the bowel.

There are perhaps few people on the globe who do not eat raisins, grapes or oranges. It would be interesting to know whether these fruits are consumed to a greater extent by one people than by another, and, if so, whether appendicitis is more common among those who eat these seeds than among the others. The danger does not appear to lie altogether in the ingestion of the larger seeds. I have here to-night, an appendix with a perforation at its tip. The impaction was produced by what appeared at first to be a fæcal concretion, but, in the centre of this, were found several raspberry seeds. The seeds of such fruits as raspberries, blackberries and thimbleberries are hard, and are, as a rule, swallowed without being broken. They are liable to become collected in clusters of two or three together and, in this way, become the nucleus for a fæcal concretion. They pass through the intestine without change. Indian corn also frequently passes through the intestine without change, even though broken during the process of canning. There is no doubt that sudden violence frequently precipitates an attack of appendicitis; such violence probably pushes the foreign body a little further into the lumen of the appendix. I have recently seen a case in which on two different occasions the attack followed coition. Perforation of the appendix from typhoid fever and the perforation of a tuberculous appendix is rare. Many cases are supposed to be brought on by some error of diet. It is difficult to explain this and I believe that it is generally a coincidence.

Symptoms.—The symptoms of the disease are very various; premonitory symptoms are present in a large number of cases. The patients feel that something is wrong and that they are annoyed by an uncomfortable sensation in the right iliac region or somewhere in the abdomen. This sensation at times amounts to an actual pain and this pain is difficult to locate. It may be referred to the left side of the abdomen, to the epigastric region, to the ovarian region, to the region of the gall-bladder; it may be neuralgic in its character and it may be diagnosed as a neuralgia. The patient is perhaps told that he is over-worked and run down, and, as a consequence, suffers from this abdominal neuralgia. Such a diagnosis is, at its best, but a cloak for our ignorance as to the exact nature of the patient's ailment. The cause of the pain, to my mind, is not properly accounted for by many authors. I believe that the pain is, in many cases, due to the interference with the blood supply of the appendix by the impaction of a foreign body in its lumen, and that this pain is identical with the pain produced by the strangulation of the pedicle of an ovarian tumor. The pain may be localized in the neighborhood of the gall-bladder, and the physician may suppose that it is due to some collection of gall stones, or to the passage of a gall stone. It may be referred to the ovarian region and the physician may suppose that the patient is suffering from neuralgia or inflammation of the ovary. It may be referred to the renal region and the physician may suppose that the patient is suffering from stone in the kidney.

Pain is not, however, a necessary accompaniment of disease in the vermiform appendix. Cases are met with in which no symptoms are found to point to any change in that organ. Such patients may suffer from headache, from chills and fever, and the physician may suppose that their condition is due to malarial fever, and yet, they are really suffering from a septicæmia originating in disease of the appendix and head of the cæcum. Other patients may suffer from sudden attacks of pain accompanied by vomiting, without any particular rise of temperature or increase in the frequency of the pulse These attacks are frequently supposed to be due to some error of diet and the resulting indigestion. Pus may form with very little to warn us of its presence. I have seen opened large abscesses originating in disease of the appendix in patients who have suffered little, if any, pain to indicate the disease in this neighborhood. When these

patients who have been suffering from these indefinite symptoms are suddenly seized with the symptoms of acute general peritonitis the diagnosis is usually readily made and a correct conclusion as to the nature of the previous ill health is arrived at. Such a sudden attack is usually ushered in with a chill, accompanied by pain and this pain extends, perhaps, over the whole abdomen. The pain is not, however, necessarily severe, and, in some cases, is almost entirely absent; vomiting comes on and the pulse rapidly rises to 120, 130 or more. The patient's countenance becomes anxious, he is prostrate with shock and looks very ill. The temperature soon begins to rise and the thermometer registers perhaps 102 and 103 degrees. If the pain is severe the breathing is chiefly thoracic, the knees are drawn up and the abdominal muscles are tense. The bowels may move two or three times and then they usually become constipated. The pain that was at first general may now become localized in the right iliac region. Rigidity of the right rectus muscle may be noticed, although no distinct mass can be made out by abdominal palpation, unless, perhaps, under the influence of an anæsthetic or by examination through the rectum. A point may be found, at which a tenderness will be noticed to be greater upon deep pressure than the tenderness evinced by pressure on the surrounding parts. This has been given by McBurney as a distinct aid to diagnosis, and has been located by him at a point about one and one-half inches from the anterior superior process of the ilium towards the umbilicus, on the right side. It is not claimed by McBurney as a constant sign, but when it does occur it is of distinct value. The tongue now becomes coated and in a short time it may be dry and brown, or dry and reddish and glazed.

If the disease progresses, goes from bad to worse, the vomiting continues and is uncontrollable, the pulse increases in rapidity and the temperature may either rise or fall or may even remain about normal. Abdominal distention is not always present, because the patient may die before the disease has continued long enough to permit of the formation of any great quantity of intestinal flatus. If the patient survives this period the distention produces a great deal of discomfort. When very pronounced it usually indicates the death of the patient. The intellect, in such cases, usually remains clear.

If, however, instead of going from bad to worse the patient improves, the pulse slowly drops to about 120 and then drops, in another twenty-four hours, to 100 per minute, the temperature may either remain elevated for several days or may drop to normal, and the tenderness will become localized. On careful palpation a boggy feeling mass may now, perhaps be felt in the neighborhood of the appendix. When this is found and the temperature remains elevated for many days a localized encysted abscess of the peritoneum usually forms. If the temperature drops within a few days the case frequently terminates without pus formation. I believe this more frequently happens in children than in adults. I have felt, in children, a great amount of brawny hardness in the neighborhood of the appendix and have found this hardness disappear gradually without pus formation.

When abscess forms on the right side flexion of the right thigh is often found. This also occurs in cases of pelvic abscess originating from other causes. Many of the cases of appendicitis with sudden severe symptoms will closely resemble cases of irritant poison, also cases of intestinal obstruction. In some cases the symptoms may be very obscure, they may point to a formation of an abscess in the liver, and the case may be diagnosed as one of abscess of the liver, and yet, at the *post mortem* examination the appendix will be found to be the seat of the original lesion. Disturbance of micturition is sometimes noted during the first three days after the occurrence of the perforation. The patient will complain of pain in making water; he will probably be forced to make it oftener during the first and second day after perforation, and, as the inflammation proceeds, micturition will become painful. Retention of urine, in such cases, or difficulty in passing it, is generally due to the administration of opium.

The percussion note over a collection of pus is not necessarily a dull note, because gas is frequently found in these fæcal abscesses. In some of the worst cases, the cases most rapidly fatal, no tumefaction can be anywhere felt in the abdominal cavity, either by external palpation or by bi-manual examination through the rectum or vagina. Such cases when operated upon by exploratory incision for the purpose of diagnosis will become

clear the moment the knife enters the peritoneal cavity; pus will gush out and the nature of the trouble will be soon revealed. I believe that we will more frequently find obscure cases in which the diagnosis lies between internal strangulation of the bowel and appendicitis with purulent peritonitis, to be cases of appendicitis than cases of internal strangulation. Cases have been operated upon in which the abdomen has been opened and explored in all directions and nothing found until, at last, the operator has pushed his fingers deep down into the ilio-cæcal region. Such a patient may perhaps have been suffering from symptoms pointing to typhoid fever, or to the so-called typho-malarial fever, or, to some obscure septic condition with no definite symptoms to aid one in making a positive diagnosis. In my own operations on such cases I always explore the region of the appendix first.

Swelling of the right testicle has been noticed in some cases. Some years ago I had a case that I now believe to have been one of appendicitis, although at that time I diagnosed it as one of those mythical post-peritoneal abscesses, in which there was swelling in the spermatic veins on that side, during convalescence.

Some time ago I saw a case in consultation that I took to be one of typhoid fever. I still believe that it was one of typhoid fever, but as a complication, swelling of the right testicle occurred, and the patient suffered subsequently from a phlebitis on the right side, affecting the femoral vein. There is something interesting in this ground on which two diseases seem to become so closely allied, namely, the phlebitis that has a tendency to occur in cases of appendicitis and the phlebitis that frequently follows typhoid fever. The veins of the scrotum or leg are the only ones that show outward signs of phlebitis.

Diagnosis and differential diagnosis.—Appendicitis may be confounded with many diseases and many diseases may be supposed to be ones of appendicitis. The diagnosis in many cases is very difficult, and in many cases it is very easy. It is easy to make a diagnosis in cases in which, after the commencement of the attack with symptoms pointing to a localized inflammation of the peritoneum, a tumefaction in the right liliac region is found. In such cases the history must be taken into consideration and will be found of great service to the practitioner. If such a tumefaction be found in a woman subsequent to labor, the chances are that it is either a pelvic abscess with pus burrowing in the plains of connective tissue, intending, ultimately to point in the right iliac region, or it is a pus tube entirely intra-peritoneal. If such a tumefaction be found subsequent to a miscarriage it is also likely to be pus either in the tube or in the sub-peritoneal connective tissue. Cases of appendicitis have undoubtedly been known to occur immediately subsequent to labor or miscarriage, but this must be the exception and not the rule. I know of no way in which we can exclude appendicitis in cases with such a clinical history. If the patient has had previou attacks that have been diagnosed as ones of appendicits we must take this fact into consideration in forming our conclusion as to the origin of the inflammation.

When cases occur with the symptoms of acute peritonitis, such as persistent vomiting, chills, collapse, rapid pulse and abdominal tenderness, they may readily be mistaken for cases of intestinal obstruction, or of internal strangulation of the intestines, or of strangulated hernia. I have been unable to make a positive diagnosis in one or two such cases until after incising the peritoneum.

The constipation. spoken of by some authors, I have not found to be constant in cases of appendicitis. The movement of the bowels subsequent to the primary invasion, would, perhaps, exclude the diagnosis of intestinal obstruction from any cause, but if constipation is present from the very onset of the disease, it is then difficult to determine the exact nature of the intra-peritoneal lesion. In some cases of strangulation of the intestine in which only a small portion of the entire lumen of the intestine is obstructed, we have movements of the bowels occurring subsequent to the onset of the attack. The vomiting subsequent to perforation of the appendix is sometimes quite as persistent and pronounced as the vomiting following intestinal obstruction. In intestinal obstruction, however, we are not likely to find rigidity of the right rectus muscle, nor are we likely to discover McBurney's point, but, on the other hand, perforation of the appendix may occur and we may not be able to discover rigidity of the right rectus muscle or McBurney's point. The diagnosis of peritonitis produced by perforation of the vermiform appendix from peritonitis, produced by per-

foration of any of the other hollow viscera, cannot be accurately made.

Now in perforation of the gall-bladder, there may perhaps have been premonitory symptoms of pain in the neighborhood of the liver, symptoms of the passage of gall stones through either the common or cystic duct, before the onset of the sudden severe pain and collapse accompanying the perforation. In perforation of ulcer of the stomach there will perhaps have been symptoms pointing to its presence before the final perforation took place. Such symptoms are frequently acute pain following the ingestion of food with, perhaps, vomiting, and with some blood mingled with the vomited matters. Perforation of ulcer of the stomach has been found in cases in which no premonitory symptoms were present ; this is especially liable to occur if the ulcer be on the lesser curvature. In perforation of ulcer of the intestine there will, perhaps, have been present some symptoms pointing to the intestinal lesion, such as diarrhœa with bloody stools, or a recent history of typhoid fever or dysentery. In perforation of a stone through the ureter there will, perhaps, have been present symptoms of renal calculus and of the passage of renal calculi on previous occasions. The presence of such previous symptoms may enable us to a make more correct diagnosis, but, with all these points kept well in view, we may frequently be mistaken, because disease of the vermiform appendix may closely simulate affections of the gall-bladder, intestinal obstruction, indigestion or the passage of arenal calculus. Escape of pus from a fallopian tube on the right side may closely simulate an attack of appendicitis. This, of course, would only apply to females, and especially to females after the period of puberty. Rupture of of an ovarian abscess or the strangulation of the pedicle of a small ovarian tumor by twisting occurring on the right side may closely simulate perforation of the ermiform appendix. The presence of a tumor in this locality, and the previous history of the case, would be our chief guide in coming to a correct conclusion.

In one child I mistook the rupture of an abscess in a gland in the mesentery for perforation of the veriform appendix. The symptoms were sudden, although the child had been complaining of feeling weak and miserable for a week or two before the onset of the sudden pain. When I saw her the abdomen was enormously distended with gas, free in the peritoneal cavity and with pus to the extent of about half a patten pail full. The rupture had taken place three weeks before. She lived for two weeks after evacuation of the pus and gas, and, it was only at the *post mortem* examination that the true nature of the disease was discovered. The father of the patient died of phthisis. The tubercular history, usually present in such cases, may be of some value, but we must also remember that tubercular disease may affect the vermiform appendix. As far as I can learn tubercular disease of the appendix is not likely to occur in children, and when it does occur it is usually only found as an accompaniment of tubercular deposit elsewhere.

Appendicitis must also be diagnosed from typhoid fever. I have seen two or three cases of appendicitis treated for four or five weeks as cases of typhoid fever in one of our best hospitals and in the service of some of our best practitioners. There seems to be a tendency on the part of the profession to place all obscure cases of continued fever with abdominal symptoms among the cases typhoid fever. This would also seem to indicate that quite a few of the patients suffering from appendicitis are troubled with diarrhœa. There is no doubt that intra-peritoneal septic conditions are very prone to produce diarrhœa. I have noticed this effect over and over again in the convalescence of patients subsequent to laparotomy when the cases did not run a truly aseptic course. When the fever continues beyond the alloted space of twenty-eight days without a return of normal body heat, the physician should always be on the watch for pus formation in the pelvis.

I have recently been treating a young woman who has a movable kidney. She was suddenly taken with symptoms that might readily have been mistaken for those due to movable kidney. Movable kidney, in some unaccountable way, produces attacks of pain in the neighborhood of the kidney, vomiting, rise of temperature, and slight diarrhœa. I have seen these symptoms accompanying this condition over and over again. If the kidney be on the right side, as it was in the lady mentioned above, it is difficult to differentiate between the symptoms due to the presence of the movable kidney and that due to an attack of appendicitis. Such mistakes have been recorded

in the practice of others. This young lady suffered, in my opinion, from an attack of appendicitis.

The diagnosis of the chronic form of appendicitis in which sinuses from burrowing pus are found in the groin, in the hip and in the loin, is at times difficult. The cases must be differentiated from those of hip and spine disease. Peri-renal abscess may also leave a sinus that may be mistaken for one following chronic appendicitis and *vice versa*.

Tubercular disease of the intestines may produce a matting in the right iliac region that will closely simulate the matting produced by disease of the appendix. Only two weeks ago I explored the abdomen of a woman aged sixty-five, in order to differentiate between cancer of the cæcum and appendicitis. I found the case to be one of cancer and not one of pus formation, and closed the abdomen. A collection of foreign substances in the cæcum may give rise to the idea that we have to deal with a case of appendicitis. I remember one such case in my own practice in which, on account of the peculiar griping pains, the absence of fever and the normal pulse, I diagnosed the lump as a collection of fæcal matter in the cæcum and not due to inflammatory thickening of appendicitis. The constipation was extremely obstinate, purgatives were used without avail, and I succeeded in dislodging the fæcal mass by giving very large enemas of hot water and changing the position of the patient so as to favor the onward movement of the water through the descending transverse and ascending colon. At last, when we almost despaired, a large mass, as large as a small fist, came away, and the patient immediately obtained relief from his pain and constipation. The mass consisted of the indigestible and hard end of asparagus, together with pieces of cartilage bitten off from the ends of the chicken bones; around this was fæcal matter that had become hardened. The patient was particularly fond of fowl, and was in the habit of eating rapidly and picking the bones while held in his fingers. He was so fond of asparagus that he ate the parts that should not be eaten. Fitz, in his admirable paper, mentions this affection as one that must not be lost sight of when making a diagnosis of a mass in the right iliac region.

And, finally, I would say that I believe the aspirator should never be used as an instrument of diagnosis in these cases. It is not to be relied on, and the literature of the subject is filled with cases in which the aspirator needle was used, and, because no pus was found, operation was decided against, and yet, when too late, at the *post mortem* examination a large abscess was discovered.

Physical Signs.—The physical sign that is frequently found, and the sign that is, perhaps, of the greatest value, is the sense of resistance or actual tumefaction in the right iliac region. This tumefaction is not always found in the one situation. I have opened an abscess over an appendix in the neighborhood of the umbilicus. I have seen a secondary collection of fluid to the left of the median line in a child eight years old after an attack of appendicitis. I have felt a collection of fluid in the pelvis of a child between the bladder and the rectum after an attack of appendicitis with general peritonitis. I have opened abscesses accompanying disease of the appendix in the right iliac region and in the pelvis in the same case.

The abscesses are, in many cases, multiple, but there seems to be a tendency toward the formation of a pelvic collection of pus in most of the cases of appendicitis, therefore, the rectal examination should never be omitted, because it often gives very valuable information. One case I show to-night is a man aged sixty-five, operated on for appendicitis a year ago, and eight months after operated on a second time for an accumulation of pus in the pelvis. The second collection of pus was evacuated by puncture through the rectum with a long trocar.

The physical sign mentioned above of matting in the right iliac region, may not be present during the first, second or third attack, but may be present in some subsequent attack; but, when found, it enables us to come to a correct conclusion as to the nature of the previous attacks. The tumefaction may vary from a large dense swelling—and it may contain a large quantity of pus—down to a simple feeling of induration or increased resistance to the examining fingers. Rigidity of the right rectus muscle may also be found, together with McBurney's point of greatest tenderness.

Course and Results.—The course of the disease may vary; the first attack may be the last. The patient may be seized in the midst of health with a sudden attack of peritonitis, and may be dead in three or four days. After the first onset of the

peritonitis the pulse may increase rapidly for the first twelve or eighteen hours, and then begin to diminish in frequency though the temperature may remain elevated, and marked abdominal distention may supervene. In such a case, the peritonitis has probably become limited by the formation of adhesions, and the seat of the disease has been shut off from the rest of the peritoneal cavity by this provision of nature. Such a case may progress favorably subsequent to this formation of adhesions for a week or ten days, and then sudden collapse may set in at the very time that the patient's friends and physicians think that he is improving. Such collapse is due to the rupture of the limiting adhesions and a secondary extravasation of pus into the general peritoneal cavity. The pulse will become suddenly rapid, the face anxious, and a cold, clammy sweat will start in beads from the patient's skin. The patient will probably die in from three to six hours.

On the other hand, the limiting adhesions may be all sufficient; the inflamed area may remain shut off from the rest of the abdominal cavity and the effusion may rapidly absorb. This absorption seems to be more prone to occur in children than in adults. I have seen large accumulations, of what I took to be pus, in the right iliac region in children, disappear rapidly without any evidence of the discharge of pus by rectum, vagina or bladder. This agglutination of the bowel, occurring as it does with great rapidity and giving early signs of its presence, is similar to that agglutination of the bowel, ovary, fallopian tube, uterus and pelvic peritoneum that constitutes the so-called pelvic cellulitis.

If the appendix be fixed near the abdominal wall, this brawny, hard, indurated feeling will be recognized much more readily and at a much earlier period. With resolution the temperature drops, the pulse becomes slower and the patient rapidly regains health. If resolution does not occur the temperature is likely to remain elevated, and an elevation of temperature extending over a period of about ten days I have usually found indicative of the presence of pus Pus may be present, however, without this elevation of temperature, and on two occasions I have seen abscesses perforate into the bladder without any elevation of the temperature to warn me of their presence. It has been said that a fatal peritonitis does not occur after an attack of appendicitis. If there has been a previous attack, it has been considered that the previous attack is sufficient to set up adhesions that protect the abdominal cavity. I have seen one case prove fatal from acute peritonitis after the patient had three primary attacks.

There is no doubt that in many cases, what Fitz called a thrombo-phlebitis, affecting the veins of the mesentery, occurs, and, as a consequence of this phlebitis, a profound septicæmia is produced. Pus is carried into the blood current, and abscesses in the liver, minute in size and numerous, may be produced as a consequence. The veins of the liver may be inflamed, forming the so-called pylephlebitis. I do not think that this is necessarily a fatal affection, unless abscesses form, because I have recently seen a case of great enlargement of the liver with septic symptoms following inflammation of the veins in the right side of the pelvis after labor, accompanied by swelling of the right leg. The patient made a good recovery; the liver greatly diminished in size. The fever remained high for several weeks. This thrombo-phlebitis may occur without any marked symptoms, and, I believe, without pain. A small quantity of pus may enter the blood current and produce a condition resembling malarial fever; the patient feels chilly, has headache and malaise. This condition may be present for some weeks before the patient has symptoms that point to any serious derangement. He may be going around performing his ordinary duties, but at last he feels so poorly that he seeks advice. The thermometer is then used, and gives the first indication of the presence of any abnormal condition. He may then probably be given quinine on the assumption that he is suffering from malaria. His condition goes from bad to worse; enlargement of the liver takes place, and death ensues.

Many cases are recorded in which a perforation of the rectum has taken place even after the patient has been operated on, and secondary abscesses have been opened in the groin and in the lumbar region.

Hernia has been found to follow operation in cases of appendicitis perhaps more frequently than after operation for other diseases by median incision. How this can be prevented is a problem of the future.

When pus perforates into the bladder it produces a very serious and frequently fatal complication. Such patients do not die suddenly, but linger on in a wretched condition and die of chronic septicæmia or pyæmia. Perforation into the rectum, in my experience, has been more favorable. I have seen one case in which pus burrowed outward into the buttock and also discharged into the rectum, and the patient died from pyæmia after a lingering illness. When pus forms towards the front of the abdomen, and is evacuated either spontaneously or by the surgeon's knife, the case usually progresses favorably. I have seen one case die of acute general peritonitis one year after the primary abscess was opened and after the patient had regained perfect health. Pus has been known to burrow upward from an appendicial abscess and to be discharged into the lung. I have recently seen a case in which the abscess extended up behind the diaphragm.

Peritonitis occuring in children, in my opinion, nearly always has its origin in the appendix, and, looking back over my past experience, many such cases that then seemed obscure now seem very plain.

Recurrence of the Attacks.—The attacks may occur at varying intervals. In some cases a second recurrence will take place after the lapse of nearly a week or two, and they may continue to occur from time to time until an abscess forms, until a fatal perforation takes place, or until the attacks cease to recur, and the patient regains his normal condition of health. When he regains his normal condition of health his appendix is probably bound down by protecting adhesions, and the disease has thus affected its own cure. In one of my cases a period of fifteen years intervened between the two attacks. In one case a period of eleven years intervened between the two attacks. The tendency of the disease is toward a recurrence of the attacks.

Prognosis.—When abscess forms and is opened in the right iliac region the prognosis is usually good. In opening such abscesses the surgeon must, of course, be careful not to disturb the protecting adhesions. When operation is performed in what I would call the intermediate stage before nature has completed her adhesive barriers, the result is not usually favorable to the patient. When operation is done in the early stage, within the first three days after the onset of the attack the prognosis is better and is fairly good. When improvement takes place after the first twelve or eighteen hours, the patient may usually be left unoperated upon, and will frequently recover from this attack with nothing but medicinal treatment.

The prognosis of cases in which the abscess opens into the bladder, as I have said elsewhere, is usually bad while the prognosis of cases that open into the rectum is better than it is in those that open into the bladder. When the abscess burrows out into the buttock the prognosis must be extremely guarded; occasionally such a case may get well, but, they are, as a rule, very desperate ones and likely to die. When distention is extreme the case is generally fatal. I have now under my care a young man with a thick cartilaginous abdominal wall riddled with sinuses due to an old appendicitis. I have opened four separate pus pockets.

Fæcal Fistulæ.—When fæcal fistulæ form they usually close of their own accord. In some cases these fistulæ remain open and must be closed by subsequent surgical procedure.

Treatment.—The treatment of the disease may be divided into medical and surgical. I believe that every case of peritonitis should be observed by physician and surgeon in consultation. The surgeon to say when operation is advisable, and the physician to carry out the medicinal treatment until that period arrives. If the surgeon is called in to see the patient when operation is supposed to hold out the last and only hope of saving the patient's life, he feels that the golden opportunity has been lost, and is wise if he refuses to operate in such cases. When operation is required in the early stage of the disease, or, what I would call the first period, it must be done as near the onset of the attack as possible before the patient has become saturated with the septic elements absorbed from the peritoneum. When the second period, or intermediate period, has arrived, and the patient is thoroughly saturated with sepsis, operation is almost always useless. The patient does not die as the result of operation when looked at from the scientific standpoint, but does die from the result of operation when looked at through the eyes of the public. In this way surgical procedures are held up to ridicule and severely criticized by the laity. Death occurs and it is supposed that

everything has been done that could be done to save the patient's life.

Suppose the patient, who may have had or who may not have had premonitory symptoms of some intra-abdominal trouble, is suddenly taken with the symptoms of acute general peritonitis, it is the duty of the physician to call to his aid a surgeon in whom he has confidence. The case should then be watched by both, and a nurse should be immediately procured, all arrangements for operation should be completed, so that it can be carried out without delay when it is thought desirable. The pulse is watched with care during the first two days. If, after twenty-four hours the symptoms do not ameliorate, but tend to go from bad to worse, with increased rapidity of the pulse, commencing abdominal distension, whether accompanied by increased tenderness or not, with increased respirations, with an increase of the anxiety expressed by the countenance of the patient, operation should be done without delay. Such cases are ones of perforation of the appendix and general purulent peritonitis, and the patient will undoubtedly die unless relieved by surgical procedures. If the symptoms ameliorate he may be left alone, and he then enters the intermediate stage of the disease. While in this stage, as I have said before, I do not advise operation. The adhesions are usually so slight, and the pus is so diffuse that the access of air to the abdominal cavity, the disturbance of adhesions that is required to evacuate all the pus seems only to intensify the septic condition, and to add to this septic condition the element of shock. In all such cases on which I have operated the patients have died. Operation in this intermediate stage, in my experience, has, therefore, been uniformly fatal. I now wait until this trying period has been passed through (unless it should prove fatal without operation) before advising the use of the knife. The patient may remain in this condition for a period of about a week or ten days; if he survives this the pus will usually have collected in one locality, and it can then be, with safety, evacuated, and the abscess cavity can be more thoroughly cleansed without the same amount of danger of disturbing the adhesions.

If the first stage has passed into the second, and the patient continues to make rapid improvement, no surgical operation will be required or advisable. Medicinal treatment will be sufficient. During this apparent convalescence, however, it is necessary that the medical attendants should be imbued with the sense of their responsibility, and should carefully watch over any accumulation either in the pelvis or in the right iliac region. The temperature record should be closely studied, and the patient should be kept in the recumbent posture and warned against making any violent or sudden effort.

If a tumefaction still exists and does not tend to disappear, operation should be done so as to prevent perforation of the pus into the bladder or rectum. At times the tumefaction will seem to diminish, but this diminution will be more apparent than real, because the pus has simply burrowed further into the pelvis, and, in such cases, bi-manual examination through the rectum is invaluable.

The medicinal treatment should consist of warm applications to the abdomen for the purpose of allaying the pain. By allaying pain in this way we are able to reduce the quantity of opiate required to a minimum. This is always desirable. It is difficult to form an exact estimate of the progress of a patient suffering with this disease if he is kept constantly narcotized. Some of the worst cases suffer but little pain. The recumbent posture should be insisted on, and the diet should consist of fluids. If the vomiting be great it may be necessary to administer nutritive enematas; these may consist of milk or beef tea with some stimulant, such as whisky, brandy or champagne. Great efforts should be made to rally the patient from the primary condition of collapse. In my experience I have not found much benefit from the use of cardiac sedatives, but, I think, I have received more benefit from hypodermic administration of strychnine.

After the primary stage has been passed, and resolution has begun, this resolution may be aided by the administration of alteratives and application of some iodine or mercurial ointment for the induration. If, however, pus has formed, medicinal treatment is of but little use until the pus has been evacuated.

For the septic condition quinine or quinine and iron may be administered. During convalescence tonics should be employed. Delay of surgical procedures when required in the primary and

third stage of the disease is, to my mind, unadvisable, while delay in the secondary or intermediate stage is advisable.

Operation.—For a time there seemed to be a dangerous wave passing over the medical and surgical world, this wave followed closely in the wake of that tidal wave that seemed to overwhelm the profession. I refer to the performance of the operation of oöphrectomy for the removal of ovaries and tubes that were supposed to be in a diseased condition. The lesser wave may be used to indicate the desire on the part of some surgeons to remove the appendix of every patient suffering from abdominal pain. Abdominal pains were, for a time, supposed to originate in the appendix. Operations were done, the appendices were removed, and they were submitted to a microscopical examination, and no disease was found, in my opinion, to justify their removal; but, of all these the reports of the cases wound up with the usual bit of self-praise on the part of the operator, namely, "that since the performance of the operation the patient has been perfectly well, and has had no recurrence of the former attacks." After our experience in connection with the subsequent history of patients from whom ovaries and tubes were removed, we accept these statements with some reserve. Just such glowing accounts of the results of cophrectomy were to be found in medical literature a few years ago, but the results appeared well on paper, and the patients about whom the results were written appeared anything but well.

The question then, when should operation be done for a relapsing appendicitis, is a difficult one to answer. The consensus of opinion seems to be that the operation should be done during the interval between the attacks, and Weir has very well put it when he said that no patients should be submitted to the operation unless incapacitated for business, ruined in health, or likely to remove to a district in which surgical skill cannot be had.

When operation has been decided on, there is another question that confronts the operator at the time of operation, and that is, how much am I justified in doing, and when and where should I stop? Cases will be met with in which the appendix is found fixed amidst a mass of dense adhesions from which it can only be separated by a very dangerous process of enucleation. This enucleation increases the risk of the operation, and, in some cases, it must be wiser to leave the appendix alone than to so greatly imperil the life of a patient not overmuch inconvenienced by his disease. Such a patient will linger along, and nature will soon come to his assistance. An abscess will probably form that can be subsequently opened and emptied, and the patient cured. Bull relates a case in which the mere fact of opening down to such an appendix and inserting a drainage tube relieved the attacks, while the drainage tube tract was kept open, but, as soon as the drainage tube tract was closed, the attacks recurred. Recovery has taken place after operation, and with a very prolonged period of convalescence.

Multiple incisions are sometimes required to open up the different abscess sacs. If a case is not doing well subsequent to operation, a careful examination should be made through the rectum, and perhaps a secondary abscess will be found pointing in that locality. When the pulse and temperature go down and the sickness at the stomach ceases, the attending physician is liable to congratulate himself that all danger is passed, but such cases, even after operation has been done, have become worse and died.

It is not necessary for me to describe the details of the operation, such a description would be of little benefit. Each operator must proceed according to his own ideas. I wish mainly to point out that many of these cases, no matter by whom they may be operated upon, no matter what method of operation is employed, and no matter at what period of time during the course of the affection they may be operated upon, will die. Cases that appear very hopeless rarely recover from operation. As Homans said after losing two sons of two physicians subsequent to early and late operation for appendicitis, the surgeon must often be disappointed with his results. A few days after losing a case subsequent to operation for appendicitis, he met with another case, and made up his mind that on this occasion he would operate early, and not be, as he thought, too late; he did operate shortly after the onset of the attack, but the case ended fatally.

I am convinced that we have yet much to learn regarding purulent peritonitis, and that, though the knife will often save life, it will frequently fail to help us as we perhaps think it should.

When I read reports of cases in which the peritoneal cavities were filled with multiple abscesses, and in which the abscess cavities were broken into and washed out, and the patients all made easy recoveries, I come to the conclusion that the author imagined a good deal that he wrote. That such cases will occasionally get well subsequent to operation I do not deny, but such is the exception, not the rule.

TRANSILLUMINATION OF THE MASTOID CELLS AS A MEANS OF DIAGNOSIS OF MASTOIDITIS INTERNA SUPPURATIVA.

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When we consider the serious nature of confined pus in the mastoid cells, the frequency of death from meningitis, thrombo-phlebitis, or cerebral abscess, resulting from recognized or unrecognized cases, the gravity of the operation necessary for its relief, and the occasional operations which are done on a mistaken diagnosis in which no purulent collection is found, it is apparent that any means by which it will be possible to diagnose with greater accuracy this disease will be worthy of our careful attention. Such a means will be found in a miniature electric lamp, and the conclusions to be deduced therefrom will be based upon the fact of the diaphanous nature of healthy mastoid cells, and the opacity of pus, and the auxiliary proposition that, however mastoids may differ in size, shape, and thickness, and consequently in transilluminability, they are practically, at least, the same on the two sides of a given head, thereby affording an easy and trustworthy standard for comparison.

The apparatus required is a battery capable of developing about 10 volts, roughly speaking a 5 cell battery, regulated so as to light well, but not burn out a 2 or 3 candle power lamp of very small calibre (supplied by Meyroroitz, East 23 Street, N.Y.,) this being protected by a thin rubber tubing fenestrated at one side and made to fit snugly at the meatus by a washer of larger tubing.

In a perfectly dark room the lamp is inserted well into the external auditory canal, the fenestra directed backward, and the current made. Instantly a healthy mastoid is illuminated with a ruddy glow extending from the apex to the lateral sinus, and upward to the limits of the cells. The reverse manner may be more satisfactory when the canal is small, obstructed or painful, and may be performed with a larger lamp. A speculum as large as can be used is placed as for examination of the membrana tympani, the electric lamp encased in a section of rubber tubing projecting slightly beyond the lamp, is pressed against the mastoid and the current made, when the external auditory canal and tympanum will be filled with a rosy light from the posterior wall. By placing the lamp on different portions of the mastoid the limitations of the cells and the position of the lateral sinus may be accurately mapped out, and the particular region in which a pathological process exists demonstrated. If the cells be occupied by a purulent collection the glow will be absent, the cells will be dark.

Comparison with the opposite side renders the diagnosis complete. Whether or not the usual symptoms be present for suppurative mastoiditis, it may exist and produce death without the appearance of the external indications called for in the text-books. This form is, indeed, the most dangerous, as the process tends to extend inward instead of outward. D. Milton Green (*Journal Am. Med. Assn.*, Nov. 12, 1892), mentions five cases in which none of the external signs were present; no pain, tenderness, nor swelling, yet pus was found either at an operation or at the autopsy. Knapp has reported a fatal case (*Arch. Otology*, July, 1892, p. 239) in which no discharge from the ear ever occurred. In a series of 80 cases reported by J. Orne Green, of Boston, (*Journal Am. Med. Sciences*, 1860, p. 575), 13% showed no external signs, yet confined pus was found. (See also record of 47 cases operated at Mt. Sinai Hospital, New York, *N. Y. Med. Journal*, Jan. 2, 1892.) Frank, developed cases with periostitis are easily recognized, but the classical indications of Schwartze, of Halle, or of Körner, quoted with more or less modification in every text book of otology, are of uncertain assistance in deciding a doubtful case. The method which I have herein submitted is scientifically accurate, easy of application, painless, strikingly pictorial, instantly decisive, and demonstrable to the patient's friends.

Selected Articles.

ON LUPUS.

Lupus has of late years attracted so much attention that I wish to say a few words about the pathology and treatment of the complaint, more particularly the latter. The paper, indeed, is simply practical. The question of the disease being due or not to the bacillus is dealt with very briefly, and all points connected with its histology, classification, and divisions are left on one side, the only arrangement touched upon being that of separation into common and erythematous lupus, with a short notice of the traumatic variety. The treatment recommended is therefore to be understood as applying to all forms of the complaint, and wherever seated, whether on the limbs, head, or face; and the suggestions offered on this head are based on the observation of 456 cases entered in my department at St. John's Hospital, and 24 treated outside the institution.

As to the supposed causes in the parent, of lupus in the offspring, they are one and all so utterly inadequate to account for the appearance of the disease, that for any light they throw upon the question they might be non-existent. Hereditary taint is often spoken of as a factor, but in my own practice I have met with no evidence showing that lupus is ever inherited; Pontoppidan, however, gives the proportion of instances of heredity at three in the hundred. One reason, perhaps, for the rarity of inheritance is that lupus often begins in early life, and that consequently most of the sufferers from it are, before marrying age, so disfigured that they have little chance of continuing their race; indeed, I never knew but one patient with lupus (a woman) marry. Struma in the parents or family is also quoted as an agent, but this I have equally failed to verify, and in the one solitary case seen by myself where there could be a suspicion of descent, the conditions were reversed: a mother attacked with lupus beginning rather late in life, being accompanied by her son, a young man, with well-marked strumoderma and suppurating glands. Again, strumous diathesis of the patient is ranked as a factor in the production of the disease, but struma constantly displays its worst features without being accompanied by lupus, and the latter may harass the patient for half a lifetime without a sign of struma being noticed. That the two are occasionally seen together in the same subject goes for nothing when confronted with such facts.

M. Beanier, as I understand him, and some of the French dermatologists maintain, not that a strumous diathesis is a cause of lupus, but that lupus is a strumoderma. In my opinion the doctrine must be entirely rejected. Strumoderma does not begin with a slow formation of soft, half-translucent, reddish papules; a particular form of lupus attacks the strumous, and, after lasting for years, has been observed to have taken on none of the characters of strumoderma. The latter generally begins with, or is accompanied by glandular swelling, rare in lupus; it is much more amenable to treatment than lupus is, and occasionally dies out under the employment of very simple means, or even none at all, the change being then apparently due to the arrival of the sufferer at the age of manhood, which I have never seen happen in lupus. Prolonged residence of families in ill-lighted dwellings has often been noticed to exert considerable influence over the development of struma, whereas I have not been able to find anything confirmatory on this head with regard to lupus. As to the contention that lupus is a tuberculosis developed in a lymphatic diathesis, I have only to say that, however correct such a view of the disease may be if confined strictly to the country in which the idea took its birth, it is inapplicable here, where the victims of this disease may be seen of every diathesis, or even of no diathesis at all. If lupus be a strumoderma, then it cannot be a tuberculosis, for it is not the nature of the latter to die out under the use of internal means, as strumoderma undoubtedly does, and for that matter lupus too, whatever may be said to the contrary.

But the strongest argument is yet to come. Nothing can be more certain than the fact that lupus, like epithelioma, has been evoked by various kinds of injury. This form of lupus, first described by myself under the name of L. traumaticus, and repeatedly identified at the Hospital by medical visitors, has been traced there in more than twenty cases to lesions of one kind or other. Among these were bites, jagged cuts, bruises, almost always small but severe; scratches, burns of very limited extent, as from a cigar; stings, and so on; whereas in no single instance did I see reason to think that strumoderma had been brought on in this way. Farther, I have to urge that, while several cases have been recorded where carcinoma chelis, or epithelioma sprang up on a patch of lupus, I have not read of a single instance where this happened with strumoderma.

Nor do I see any reason to accept the view, several times put forward, that lupus is an outcome of weakness accompanied by a meagre development of frame. That mere want of strength is not in any way the efficient cause, is, I submit, amply shown by the failure of tonic treatment in the disease. That poor development of the frame may predominate among these patients, that many of them are thin, with stringy muscles, badly shaped, and bearing upon the impress of coming disease, may at once be admitted; but, on the other hand, some of them are healthy-looking, and

reporting themselves healthy, ruddy, and well-made people; and I have myself become as sceptical as to this affection being connected with any particular kind of bodily frame as to its being dependent on any diathesis or temperament.

Such arguing as that which ascribes lupus to the ravages of a micro-organism would not be allowed a hearing in any branch of science, and I am at a loss to understand why it should pass current in this case. The bacillus cannot always be detected in the tissues, and therefore to maintain that the disease is always due to it would be to maintain that there may sometimes be an effect without a cause; and if lupus can in some cases spring up independently of the organism, then in strict reasoning it may do so in every instance. Unfortunately there is with respect to many points but little strict reasoning in medicine, and here even a smaller amount than usual. The dependence of the disease on the bacillus and the operations of the latter are spoken of as confidently as if every position concerning them had been proven, though there is neither proof nor probability in their favor. The long venerated doctrine of blood poisons, the offspring of Sydenham's cherished creed, which was to flourish after his death, *me vitâ functo*, once so authoritatively taught, which required men to believe that two-and-twenty such poisons existed, though not one of them could be either seen or felt; that the entrance of every one of these into the blood, its multiplication there by zymosis, and its final elimination, were as effectually demonstrated as the discoveries of Harvey and Jenner; the doctrine so promptly abandoned, without even one word of regret, at the bidding of Pasteur and Koch, is really revived here, and indeed applied to other diseases, under a new name and in a new shape, and with all its inherent defects.

There never yet was a doctrine of blood-poison that would bear looking into, and the bacillus theory of lupus stands investigation almost as badly. It breaks down at the first stage, because it is certain that in remote country places patients contract lupus who have never seen a person with this disease. The second stage must share the same fate, for it is equally certain that in many instances the bacillus cannot be found in the most developed phases of the complaint, which again constantly gets well under treatment without anything special being done to starve, poison, or expel the invader, thus effectually disposing of the third stage. Face to face with clinical experience, the theory fades into a figment without beginning, middle, or end, and for anything it explains the bacillus might have for ever remained undetected by the microscope.

A patient with lupus frequently enough lives long years in a family without communicating the disease to a single person. The bacillus, which traverses miles of open country to reach some lonely cottage, cannot in such cases overleap the slight and feeble barrier which stands between sister and sister, between husband and wife. The believers in the wonderful feats of the bacillus say that this is owing to its not having found a suitable soil to settle in, but figurative language of this kind usually masks an error or represents a superfluity of language. Here we have both. Nothing grows in soil but what undergoes a change; the seed dropped into it does not multiply as the bacillus does, and the phrase "suitable soil" is superfluous, because the condition is better expressed by the older term of predisposition to the disease. And to this as the real cause of the appearance of the disease the predominance must, I submit, be assigned. Where exposure with immunity is the rule, infection can only count for very little.

In the foregoing paragraph I have spoken of the wonderful feats of the bacillus, and as I do not like to make use of an expression of this kind without what appears, at least to me, a good reason for doing so, I shall attempt to justify the remark. As I am anxious not to occupy more time than is absolutely requisite, I have selected as evidence one fact out of several. A gentleman undertook to show me the bacillus in a piece of lupus tissue which he had been examining, and one was with great difficulty displayed; but in answer to my questions he at once admitted that this was the only specimen he had been able to secure, though he had examined a number of sections; and it certainly did appear to me, and ever since has appeared to me, wonderful that this mere mite of matter should be able to effect such a destruction of tissue, which could hardly have been brought about by a prolonged use of the most powerful caustics.

An unhealthy state of the climate has been suggested as an exciting cause of lupus, but nothing very definite on this head has come under my notice. We are also told that the disease is more common in a population exposed to bleak north and east winds, and Pontoppidan traces a good deal of it to raw sea-air. However strictly this may be the case in a northern country, I should, judging purely from personal experience, say that it does not hold good in England. I have not found lupus very prevalent at the seaside; and Margate, which is in a peculiar degree exposed to the sea-breeze, has been selected as the site of a hospital for the treatment of this disease and scrofula. I have several times traced lupus to low-lying villages shut in by hills and trees, but I do not attribute much importance to this, having seen the disease in people born in the most contrasted climates; and my colleague, Mr. Hitchins, after a long and careful search, found himself unable to come to any conclusion about the topo-

graphy of the disease. I am, therefore, disposed to believe that such agencies simply intensify an inborn tendency to lupus, which would have shown itself sooner or later without such assistance. With the view expressed by Sir Erasmus Wilson, that lupus is due to inherited syphilis, and that of Mr. Hunt, that erythematous lupus is syphilis, it is, I presume, no longer necessary to deal; they were utterly unfounded, and perhaps never had any particular influence over either pathological doctrines or treatment.

That lupus owes its existence to some widely diffused and resistless agency, acting unseen and silently on the whole mass of the population, and in conformity with a law long ago recognized by myself, but which I have quite failed to unravel, seems almost certain from the fact that, turn to which side we choose, search what part we may, we shall always find that the number of persons suffering from this affection bears the same common proportion to that of patients with disease of the skin, and unless my calculations have quite misled me, the same proportion, speaking, it is to be understood, exclusively of England, the same common relation to the number of the inhabitants, about one in eight thousand nine hundred and fifty, as well as I have been able to make out, any such computation being, however, quite open to correction. As to any attempt to explain the occurrence of lupus by some theory, or by offering the reader his choice of two or three theories, I have no figment of the kind to put forward; I look upon concoctions of this sort as little better than day-dreams, as things which waste man's time on earth, for they leave no man wiser.

The reader has no doubt noticed that I have included with lupus the erythematous form, which some authors have separated from it and classed with the erythemata. I believe the attempt to be a complete mistake. In a woman who had been suffering from the disease more than eighteen years, unmistakable lupus papules had formed on the posterior edge of the patch, which was seated on the right cheek, nearly covering it. Two women, in both of whom the disease had begun and spread, in classic fashion, like the rough outline a of butterfly, stretching across the bridge of the nose and over the cheeks, were attacked with equally unmistakeable lupoid ulceration at the edges of the patches. A man with this form of the disease on the backs of both hands had sycosiform lupus of the face, and Dr. Jamieson mentions a case where erythematosus on the cheeks passed imperceptibly into vulgaris of the nose, with characteristic ulceration and crusting. This variety, too, may, like the traumatic, start from an injury, which I have never seen in any erythema; a patch covering almost the entire right cheek of a woman, took its origin from the opening of an abscess over the zygomatic arch.

We now come to the important part of the matter, the treatment of the disease, and I propose to begin by examining the system of Dr. Koch, the history of which has revealed an amount of credulity, contempt alike of reasoning and grammar, hasty judgment and intolerance, not often, if ever, paralleled in the annals of medicine. The millenuium of medicine had come, an era of science had dawned upon the world which for ever rendered all former experience worthless; about that no dissentient opinion was to be heard. Lupus had been cured in a week, even in five days; consequently its speedy extinction, or at any rate relegation to the list of mild affections, was merely a question of time, and a very brief time too. Consumption was also to fall before the unsparing arm of modern science, and the system which mastered it would deal equally well with tuberculosis of the joints.

Although I have read a good many reports and communications to the medical journals about injecting, I have only come upon one case which could be considered a history of a cure of lupus, that brought by Dr. Abraham, before the West London Medico-Chirurgical Society; how many hundreds of failures there have been we shall never know. Thirty patients were treated at St. John's Hospital in this way by Dr. Dockrell with all imaginable care, and in the presence of a number of medical men; they were kept under observation for months, and their subsequent histories, with one exception, systematically traced. All improved, but twenty-seven relapsed, two did not relapse, and one, the exception just mentioned, could not be followed up. It is not easy to see how a remedy could have been more impartially tried, or how failure could have been more complete; not one of those, I believe, who watched the experiment coming to any other conclusion.

From the eagerness with which tubercular injecting was at once elevated to the rank of supreme agent of cure, I presume it is generally believed that an agent of this kind outweighs in power constitutional and dietetic treatment aided by local means. It will need more success on its side than yet has been achieved with any purely topical remedy to supersede, in the judgment at least of unprejudiced persons, a comprehensive system of internal means to which topical measures are strictly subordinated. Such a method may be reproached with slowless of operation, it does not promise such speedy and brilliant results as the knife and sharp spoon; but properly and persistently carried out, it never, I believe, fails to improve the patient's health, almost always arrests the progress of the disease, and fairly often effects a cure, which at any rate lasts for years, if not for life. I say this quite advisedly. I have repeatedly shown the medical men, following the practice in my department at St. John's Hospital,

cases of lupus of all kinds in all stages of cure, not one of which had been subjected to any torturing application or any operation, only the mildest local means having been employed. I have not seen an instance where a patient, supposed to be cured by these means, had relapsed, and I have had several opportunities of learning that patients, discharged a considerable time before, had had no return. But there may have been even numerous relapses, and I limit myself expressly to saying that I have not heard of any.

Then, inasmuch as the advocates of scraping, cutting, and gouging out lupus patches and ulcers cannot but admit that the mild topical means just mentioned could by no possibility have destroyed the bacillus, the cure must, on their own showing, have been effected by the constitutional treatment alone; so that this is sometimes at any rate adequate to the task if we could only direct its powers aright. Farther, I suppose it will be conceded that the local measures named in the opening of this paragraph are at least painful, disfiguring, disabling, and not unfrequently useless; the disease returning just the same after what, in the report of the case, looks like a cure. If the gentlemen who recommended such operative proceedings do not admit the frequency of failure and relapse under their hands, then those who have seen a good deal of the disease will admit it for them. Leaving on one side a whole host of cases, I may mention that one girl, who entered at St. John's Hospital, had been scraped eight times, the lupus after the last of these operations being as bad as ever; indeed, a gentleman of large experience in these cases said, in my hearing, that of all the bad forms of treatment, scraping was the worst. I cannot quite agree with him, being of opinion that cutting is just as useless, rather more painful, and equally mischievous. Among other instances the two following may be cited. Not long ago a girl was attending at the hospital who had been cut five times for lupus of the face without the destructive progress of the disease being in the least staid, while the patient is disfigured for life; a lady came over from New Zealand to be treated for lupus on the back of the left hand, which was badly scarred both lengthwise and crosswise, the result of two successive operations, in the course of which the hand had been laid completely open, without the least good being done in the way of cure or even arrest.

I never could understand what the advocates of purely local treatment propose to do with the symptoms of general ill-health so often seen accompanying this complaint, notably loss of strength, wasting, indigestion, constipation, and headache; whether they have satisfied themselves that the removal of the local affection will be followed by the spontaneous disappearance of all such complications, or that trifling matters of this kind are below the notice of science, are points respecting which the works I have consulted are silent; while in conversation I have only received in reply to my questions answers which did not allow of any satisfactory conclusion being drawn from them. Having never seen an instance of lupus cured by purely topical means, I speak, as concerns personal observation, in total ignorance of what the effects of such a cure may be on the general health; but I have seen plenty of cases where pretty well every form of outward treatment yet recommended had been tried without benefit to the disease, and where, when any effect had been produced on the system, it was decidedly of an injurious nature.

If medical men have been disheartened by their want of success in the internal and dietary treatment of lupus, they have in some measure, and especially in respect to the latter, only themselves to thank. For years and years they have, with one or two exceptions, gone on ordering tonics and highly-nourishing food in this complaint, seeing the patients get persistently worse, and yet never stopping to try whether benefit might not result from some form of change; repeating, one generation after another, the announcement that this affection is due to weakness and therefore demands the remedies suited to this state; and lastly, also one generation after another, winding up all treatment by sending the patient to a milder air, to some watering-place, or to the seaside, all three about of as much service as they would be in a case of cancer.

I may have been mistaken, may have gone too far in making such a sweeping statement as that in the foregoing paragraph, but till I am refuted I shall continue to believe that it is strictly in order, and that with the exception of Lugol's researches, which, though bearing chiefly on struma, cannot, looking to the views of French pathologists, be lost sight of here, and, indeed, two of the cases quoted in his famous treatise were cases of lupus —those of Dr. Piffard, of Dr. W. Frazer, with barium in perforating lupus, and of Morgan and Eames, with phosphorus—there does not exist evidence of any serious attempt to investigate the action of internal remedies in this disease. Compared with the apathetic routine of prevailing systems, Lugol's observations stand out in strong contrast; they were truthfully and laboriously carried out, and if he did not effect all the good he aimed at, his want of success was due to the inadequate powers of his great remedy, not to any want of ability on his part. Nor have the labours of the others yielded, so far as I can learn, much better fruit, Dr. Frazer's being the one solitary success achieved in this direction.

Several years ago I proposed to divide the internal means recommended in books for lupus, into three classes,—those possessing some control

over the disease, those of doubtful value, and those of no value at all. The first class comprising arsenic, calomel, saline aperients, and, in lupus of the limbs, iodide of potassium; the second, all the salts of antimony except the tartrate of soda, borax, mercury, iodine and potash, except those just mentioned; all combinations of these, such as iodide of mercury and Donovan's solution, cod-liver oil as ordinarily given, phosphorus, phosphates, every kind of chemical food, all mineral waters, and all vegetable preparations; to the third category were relegated steel, quinine, all mineral acids, bitters, sedatives, alteratives, and sudorifics. I have seen no particular reason to depart from the judgment then passed, and must contend that what I advanced is thoroughly borne out by facts. I distinctly assert that, while I never saw lupus in any way benefited by any of the rejected remedies, and especially not by bark and its alkaloids, steel and bitters, I have several times observed rapid and intractable exacerbation from the use of these things. Steel was particularly mischievous and always a failure; some of the patients had taken it for years without the least good being done, and I myself tried five different preparations of it with no better success. Lupus is not so rare but that there ought to be plenty of cures by tonics to bring forward, but to the best of my knowledge, no such evidence of their power exists. Mr. Hutchinson, an advocate of tonic treatment, honestly says the cures are few, but I should like to know where even these few are to be found recorded.

The reader will have gathered from the foregoing that the medicines to be introduced to his notice as curative in lupus are saline and mercurial purgatives and arsenic; these indeed, with occasional resort to tartrate of antimony, have alone proved useful in my practice. The saline I have generally employed, and of which I make the most unsparing use, is composed of four parts of the sulphate of magnesia to one of carbonate, and half to two thirds of a part of nitrate of potass, dissolved in a small quantity of water, which, with the view of averting griping, should be strongly aromatic, nothing for this purpose answering, perhaps, better than peppermint made from the English herb. When the flavor of this is objected to, as is sometimes the case, cinnamon or dill may be substituted, but they are inferior to the mint. A small quantity of this mixture, generally about a tablespoonful for a grown person, is given directly the patient wakes, or at any rate a good while before breakfast, and immediately after the dose a quarter of a tumbler of hot water or a cup of hot weak tea is drunk. This arrangement ought to secure a copious stool directly after breakfast and no more. If it operate beyond this, the dose is to be cut down, while it may be increased to double in order to secure the needful degree of action. I have known people unable to bear more than teaspoonful, and sometimes a patient not particularly strong-looking has reported little effect from two tablespoonfuls, and required such a dose to be supplemented by a pill. This medicine is given everyday month after month. If at any time the patient should get tired of it, the surgeon can suspend it for a short period, but the sooner it is resumed the better. Most persons, however, so thoroughly realize that some relief is derived from continuing the remedy, that their great wish, or at any rate the wish they most frequently express, is to be allowed to keep up the use of it.

Occasionally, and especially during mild weather, a mercurial purgative is given, generally twice a week and at bed-time. For this purpose I have found nothing equal to calomel. I can offer no explanation as to the way in which it operates; I only know that it acts curatively, and in lupus attacking the nose often materially promotes the patient's comfort. These patients often suffer rather severely from a sense of distention of the affected part when stooping, feeling, they say, as if all the blood in the head were rushing into the organ. This a smart dose of calomel often does away with,—sometimes, according to the statement of the patient, the very first taken. For adults the calomel is prescribed in the shape of a pill, combined with opiate confection in order to obviate griping; for the younger it is mixed with twice its weight of grey powder. The quantity given is just what will procure two or three loose stools, and during mild close weather, such an amount twice a week is well borne; with the return of cold raw east winds, it is sometimes not so well supported, and must therefore be employed in a much more restricted fashion for the time being, particularly if the patient's occupation involve much exposure to the air. But it should be resumed so soon as ever circumstances permit, and the reader is to understand that when the mercury is given it is to be given as a purgative, and that when the amount of action just mentioned is not attained to by the calomel, it must be effected by a supplementaty dose of black draught, containing, however, not more than a fourth of the usual proportion of sulphate of magnesia, taken early next morning.—J. M. Milton, M.D., in *Edin. Med. Jour.*

(*To be continued.*)

MEDICAL NOTES.

Prof. Hare thinks *Croton Chloral* is infinitely preferable to chloral in sleeplessness due to pain.

Prof. Keen says that a dose of *Digitalis* administered before an operation will often avert a shock.

Prof. Hare says *Croton Oil* should never be employed as a purgative except in cases of extreme necessity.

In cases of severe *Chordee* Prof. Keen states that if leeches are applied they will prove effective in reducing it.

In cases of *Sore Relaxed Throats*, Prof. Hare recommends a gargle consisting of the sulphate of copper in the strength of four grains to the ounce of water as very serviceable at times.

In cases of *Empyema*, in which the attack is recent and of a moderate type, and a sample of the fluid withdrawn from the chest is but slightly opaque, Prof. Graham strongly advocates a medicinal plan of treatment without surgical interference.

Prof. Hare advises the placing of from one-half to one ounce of a one-thousand solution of bichloride of mercury in the spit-cup of *Consumptives*, in order to destroy the bacilli and thereby render the attendants less liable to infection.—*Coll. and Clin. Rec.*

A METHOD OF TREATING COMPOUND FRACTURES

The present paper deals with a method for treating compound fractures and with the results of that treatment as illustrated by the cases admitted into the author's wards at the London hospital during the last six years. The method aims at being simple, and in the following account it may be considered as applied to the commonest of compound fractures, viz., those of the leg: On admission, the limb is covered with lint soaked in carbolic lotion and is subsequently cleaned with the greatest care; protruding bone is replaced, loose or damaged bone is removed, and the broken ends are adjusted by means of splints with as little delay as possible.

1. Ordinary well-padded wooden splints are employed, but under no circumstances is the limb secured to the splint by means of strapping. Strapping may be used to form a stirrup whereby extension may be applied in the fractures of the femur or humerus, but no form of plaster appears to be other than objectionable when the question of fixing the limb is concerned. If the strapping be adjusted with sufficient firmness, it will often be found that within twenty-four hours the limb has swollen and the strips of plaster are cutting into the soft parts and are impending the circulation. The strapping then has to be cut or reapplied, and a second adjustment of the limb is rendered necessary. On the other hand, in process of time, the band of strapping is found to have come loose from shrinking of the limb, and a further readjustment of the fractured parts is called for. In the place of plaster, straps of fine webbing and buckles are made use of to secure the limb to the splint. These vary in length, and are applicable to all parts. If found to be too tight or too loose they can be altered as often as necessary in the day without the least disturbance of the limb. In this way the limb can be secured with a proper degree of firmness. Where the webbing crosses the shin or the dorsum of the foot a small shield made of gutta-percha, and lined with lint, is interposed. When side splints are employed these also are held in place by straps and buckles. No bandages are ever applied. They are quite unnecessary. They cannot be readily tightened or loosened, and they cover up to an undesirable extent the damaged parts.

2. In the second place the limb is kept throughout in the open air. This would happen by necessity, more or less, in the case of the upper limb, but it is insisted upon also in all fractures of the lower limb in which there is a wound. If the principles of aseptic surgery be well founded, a worse atmosphere with which to surround a wound could scarcely be found than that which exists under the bedclothes. This atmosphere is confined, is hot and moist, and when flatus is passed or the bed-pan is used must of necessity become especially offensive. In all compound fractures of the leg or thigh the limb is kept throughout entirely uncovered as well by night as by day and in the winter as in the summer. In cold weather the nurse makes a cotton wool cap for the foot, but during the six years in which this rule of uncovering the limb has been observed there have been no complaints of chill or evils arising from exposure. It might be mentioned that in the author's wards in all cases of wound of the lower limb, including amputation wounds, and in all cases of ulcer, the part is kept throughout the whole period of treatment uncovered save by the necessary dressings, and since this plan has been adopted the results have been infinitely improved.

3. The third element in the treatment concerns the care of the wound. In cases of compound fracture there is usually a not inconsiderable amount of bleeding and oozing from the wound which will often be continued for many days. It is very desirable that this fluid should not be pent up in the limb, and that it should be allowed the freest possible means of escape. The plan of sealing the wound with collodion may be spoken of in general terms as bad. It can in no way control the oozing, which may long continue from the damaged parts, and merely confines within the recesses of the limb a fluid which is admirably adapted for the development of bacteria.

While a free exit should be given for all discharges of blood and serum such a barrier must, at the same time, be erected as will prevent the entrance of pus-producing bacteria. A dressing of antiseptic gauze wool may possibly meet these conditions, but in a large proportion of cases such a

dressing needs to be very frequently changed, and such a change cannot always be effected without disturbing the position of the broken bones and putting the patient to no little inconvenience.

In the present collection of cases the wounds have been simply covered with a heap of dry antiseptic powder, which has been applied without stint. This covering of powder may be considered to seal the wound so far as the possible entrance of bactera is concerned, while at the same time it in no way impedes the free escape of blood and serum from the damaged parts.

The discharge find its way into the protecting powder forms with it a harmless scab or crust. As the powder becomes saturated, more and more of it is applied, but the crust produced is not disturbed. In certain cases the oozing continues for many days, and in one or two instances the crust produced has exceeded the size of the adult fist. The powder employed has been iodoform or creolin. The latter has been found to be the more convenient. For the first few days the powder may need to be dusted on every few hours, and as the limb is kept always uncovered the saturation of the crust can be at once noticed. When no more blood is found to be escaping the powder is discontinued, and some seven days after this period the artifical scab is removed and the wound beneath may be expected to be healed or to be healing.

When the laceration occurs upon the upper surface of the limb there is no difficulty in covering it with powder. When it is placed upon the sides of the extremity a platform of cotton wool must be so fixed in place that the powder when dusted upon it will bury the wound. The cotton wool may be kept in position by fixing it against the side splints, or by attaching it to the skin by gum.

The following advantages may be claimed for this method. It is simple and requires but the simplest appliances. The fracture when once adjusted need not be again disturbed. The damaged part is kept exposed to view, and the position of the ends of the bone can be ascertained at any moment.—Frederick Treves, F.R.C S., in *Annals of Surgery*

THE PATHOLOGY OF NERVOUS DISEASE.—In an interesting and instructive paper on this subject Dr. Charles W. Dane (*Boston Med. and Surg. Jour.*) concludes as follows: I would sum up the points which I have tried to bring out and emphasize in the preceding remarks somewhat as follows:

(1) The term inflammation, as now understood, has to be applied more carefully and with restrictions to nervous diseases. Many forms or cases, for example, of meningitis and myelitis are in reality toxæmias or processes secondary to mechanical injury. There cannot be an inflammation without a specific cause, and we should associate this fact with our conception and our diagnosis of the inflammatory processes.

(2) In the organic neuroses of degenerative type there is a toxine of extrinsic or intrinsic origin, which is negatively chemotactic. The body cells and proteids cannot defend the special parenchyma, against it. The degenerations, including muscular atrophies and primary scleroses, are of toxic origin. There is a poison at work which it should be the effort of neurological science to find out how to antagonize and combat.

(3) In the chronic neuroses of functional orgin, so-called, such as paralysis agitans, chorea, epilepsy, and Basedow's disease, there is a toxic factor which is of fundamental importance. This may be due to defective gland action as in Basedow's disease and in myxœdema or to humoral posions of other origin. Many neuroses are really glandular or nutritive or infection diseases.

(4) There is another element of equal importance in the etiology of the neuroses, and that is an inborn or an acquired lack of resistance to injurious agencies, whether engendered within or introduced from without. This diminished power of resistance on the part of nerve-centres is produced in some cases by strong emotions and shocks; and while under this depressing influence, the nerve-centers become susceptible to the action of the poisons which then continue and keep up the disease. In some such way as this we may explain the origin of paralysis agitans, certain forms of neurasthenia, and exophthalmic goitre, perhaps, also, even of the organic neuroses like locomotor ataxia. These views lead to the practical conclusion, that in treating many of the chronic neuroses there are two kinds of measures to be employed: first, those which increase strength and resisting powers of the organism; second, those which are of antitoxic or specific character. There are, in all probability, specific cures for many of the diseases which we now regard as hopeless; remedies which will stop the progress of locomotor ataxia and progressive muscular atrophy, and which will neutralize the poisons that keep up exophthalmic goitre, paralysis agitans, epilepsy and other neuroses.

(5) The toxic origin of nervous diseases has been established in the case of myxœdema and made probable in that of exophthalmic goitre, paralysis agitans and chorea; and the importance, at least of a toxic element has been shown for epil epsy.

(6) Finally, by the term toxine or poison is meant a very wide range of injurious substances, including the products of defective metabolism, defective gland action, microbic growth, and the extrinsic vegetable and mineral poisons.

THE OFFSPRING OF MULATTOES.—Observations extending over a period of over thirty years con-

cerning the morbid proclivities of mulattoes are embodied in a paper by Dr. W. A. Dixon, in the *Med. News*. Living close to the boundary separating the old slave States from free States, the author has had peculiar facilities for studying his subject at length. Fifty years ago and more, it was the custom of wealthy planters, as they advanced toward age, to liberate such portions of their "estate" as bore to them a filial relationship, and establish these in homes in localities where good treatment, consideration and respect due to citizens could be secured. Thus in Southern Ohio there grew up a community of mulattoes, the offspring of white men of wealth and position, who themselves represented the best New England stock. The pure mulattoes were tall, muscular, well-developed, complete types of physical perfection, many living to old age, sometimes to one hundred years. Proud of their parentage and light skin, they took for wives women who were also half white. Prosperity and pride held them aloof from the negroes. Their children intermarried, and their race continued until the fourth generation, when these families gradually became extinct. The offspring of the first cross were robust, those of the second paler, more ash-like in complexion, slight in figure, evincing predisposition to, and characteristic of, tubercular disease; while in the second and third generations of pure mulatto intermixture all the children were girls, and notably sterile. The fourth generation proved even less fertile, and presented cutaneous affections, ophthalmia, rachitis, hydrocephalus, hip and knee-joint disease, and various glandular abnormalities. These facts would seem to prove the affirmation of ethnologists, that human hybridity can not be maintained without reversion or fresh supply from parent blood. Such a type can only have an ephemeral existence. In the second and third generations of pure mulatto blood the offspring were inferior in vitality and intelligence, and consequent morality. Their churches, independent school-houses, their very names, in time, disappeared. Some form of tuberculosis gradually undermined and extinguished them. The statement is made that when purity of race is maintained in civilized or barbarous countries, there is but little or no tuberculosis. And the dismal suggestion of ethnologists, cited by Broca, is given in full, to make us shudder and pause, according to temperament, to wit, "that the United States, where the Anglo-Saxon race is still predominant, but which is over-run by immigrants of various other races, is by that very circumstance threatened with decay, inasmuch as their continuous immigration may have the effect of producing a hybrid race containing the germ of disease, degeneration and future sterility." The writer of the paper forcibly remarks that it is wise as well as necessary to look beyond the bacillus for causes resulting in tuberculosis, crime, idiocy and insanity. Purity of race is one safeguard against constitutional inferiority that brings with it lessened mental and moral vigor.

Irrigation of Bladder.—In preparing for irrigation of the bladder, the first step is to scald out a small pitcher. In this the antiseptic powder is dissolved in a few ounces of boiling water. While waiting for perfect solution, a pint and a half of boiling water should be poured into the fountain syringe and allowed to remain until the syringe is needed. The catheter, which has been kept in a bottle of 1:1000 bichloride solution, is removed to a small basin containing boiling water. The antiseptic solution can now be reduced in temperature by the addition of cool, sterilized water taken from the cotton-plugged bottle already mentioned. The prepared solution is now poured into the fountain syringe, all air is expelled, and the cut-off screwed down. Meanwhile, the nurse has cleansed the external genitals of the patient with a 1:2000 bichloride solution. There remains only to pass the catheter and connect it with the tube of the syringe. Taking the catheter from the hot water with fingers disinfected in an antiseptic solution, bichloride glycerin is poured over two inches of the end as a lubricant, and the instrument, in a good light, is passed instantly into the bladder.

If the bladder is full, considerable urine must be allowed to escape to make room for the antiseptic solution. If there is little urine, there is danger in allowing it all to run out and permitting germ-laden air to be introduced through the catheter. The only convenient means of expelling the air from the catheter, when this instrument is first introduced into the bladder, is to allow a small stream of urine to pass outward through it. Before the catheter is connected with the syringe tube, all air must likewise have been expelled from the latter by allowing a column of the antiseptic solution to pass through. At first a gentle stream is turned on. The force is governed by the elevation of the reservoir and by the screw cut-off. The importance of injecting slowly can not be too strongly emphasized.

When the patient begins to feel a sense of slight distention the tube and catheter are disconnected. While the operator cuts off the stream from the syringe with his right fingers, with his left he guides the stream from the catheter into a quart bowl placed between the patient's legs. The operation of siphoning must not be carried to the extent of absolutely emptying the bladder. A little fluid should be left in to prevent the admission of air and to keep the bladder-walls from collapsing and causing spasm. It is best to leave at least an ounce of the antiseptic solution in the bladder after the last siphoning.—*Med. Brief.*

GASTRIC CRISES IN FLOATING KIDNEY.—The gastric crises which sometimes occur in cases of floating kidney were recently discussed at a French medical society. Dr. Mathieu had observed patients in whom there had been severe attacks of vomiting some ten or twelve times a day for a fortnight or even more. There was a strong resemblance to some of the gastric crises of locomotor atxia. There was severe abdominal pain. In a few cases there was enough gastric dilatation to suggest constriction of the pylorus. It was very possible that the symptoms resulted from a temporary displacement of the kidney and more or less torsion of its pedicle. The best treatment for floating kidney he had found to be rest and the abdominal bandage, with a large and soft pad over the kidney. At the time of the lighter gastric crises he had used chloroform, cannabis indica, and a milk diet, with some success, but for the more severe cases he had not found relief by drugs. Of surgical attempts to fix the kidney he believed there had been twenty-six successes and eleven failures. Dr. Legendre agreed that the displaced kidney probably pressed sometimes upon the pylorus and by that means excited the vomiting, but he did not think the vomiting could always be stopped by getting the kidney into its right position again. Dr. Guyot had observed for forty years cases of floating kidney, but had not found gastric dilatation or fits of vomiting. Dr. Rendu gave an account of the case of a lady in whom there had been many gastric crises. At first they were considered to be due to a pre-ataxic condition; later, when they were accompanied by jaundice, to gall-stones; and finally, when the jaundice, no longer recurred, to floating kidney. A surgical operation to fix the kidney was contemplated, but before it was performed the crises ceased completely, and the problem of the origin of the symptoms remained unsolved.—*Le Progrès Médical.*

CERTAIN ASPECTS OF GONORRHŒA IN WOMEN.—Dr. Noble (*Amer. Jour. of Obs.*) says an interesting phase of gonorrhœa in women is the invasion of the womb, Fallopian tubes, ovaries and peritoneum. In the urethra, the vulvo-vaginal glands, the vagina, the uterus and the Fallopian tubes, the general facts are the same—the disease has little, if any, tendency to undergo a spontaneous cure. The rule is that a chronic catarrhal condition succeeds the acute inflammation—if the disease has not been chronic or "creeping" from the beginning—and that in some fold of membrane, crypt or follicle, enough of the specific poison remains to set up acute inflammation anew. The known chronicity of the disease, and its rebelliousness to treatment in accessible regions, offer but little encouragement to expect a perfect cure in an inaccessible tube from which drainage is difficult, if not impossible. Personally, he knew of no case in which a gonorrhœal salpingitis had been perfectly cured. He believes that the rule of practice should be to remove all such uterine appendages when the health of the patient is compromised by their presence. There is reason to believe that gonorrhœal salpingitis invariably produces occlusion of the tube, except in those cases where the infection spreads quickly to the peritoneum and induces rapidly fatal peritonitis. In respect to the question as to removing both uterine appendages when only one is infected with gonorrhœa, he mentions the fact that when one uterine appendage has been removed for inflammation the disease is likely to attack the other tube subsequently. Therefore, in operating upon women, the mothers of families, and who are approaching the menopause, it is certainly wise surgery to remove both uterine appendages, even though one is healthy. In young women desirous of bearing children, where only one tube is infected, it should be left to them to elect whether one or both tubes should be removed, as they alone must suffer the consequences of success or failure. Probably the percentage in which extension to the healthy side will occur can be materially reduced by appropriate treatment.—*Sheffield Med. Jour.*

TYING THE PATELLA FOR FRACTURE.—Twyman (*Brit. Med. Jour.*), says of the various methods of dealing with fractured patella, the simplest, and the one that most nearly fulfils the requirement laid down by Barker, is one the results of which have not been made known. A large perineum needle is used, fixed to the handle at right angle. The point is entered through a small incision on the outer side of the upper fragment and passed around it, keeping as close to the bone as possible. The quadriceps tendon is traversed from side to side, and the point of the needle brought out on the inner side of the joint. It is now threaded with stout silver wire and withdrawn. The lower fragment is then dealt with similarly, the ligamentum patellæ being transfixed from side to side. The needle is then threaded with the other end of the silver wire and withdrawn, thus surrounding the bone. The fragments are then pressed together and the wire drawn tight, twisted off and the end hammered to the outer side of the upper fragment. The leg is placed on a "back" splint and slung at an angle of 60 degrees. The patient may be allowed to go about in from nine days to two weeks. Three cases are reported, in two of which bony union took place. The ordinary perineum needle is a little short, and as the point is passing around, the last quarter of bone tends to spring away from it. The author's needle comes down straight for three-quarters of an inch at that part where the needle proper joins the handle at right angles. The needle must be entered opposite the widest part of the patella in

order to keep close to the bone. The wire must be nearly pure silver, and stout. The needle must be carried deep enough into the patellar ligament and quadriceps tendon, and also keep clear of the deeper skin layers, which is very difficult with the ordinary needle. Care must be taken that the wire does not kink on the inner side when it is being drawn tight. This is best prevented by crossing the ends and seizing them with two pair of forceps, drawing evenly with both hands, while the fragments are pressed together by an assistant. The incision through the skin should be made in the length of the limb, as it facilitates the hammering down the knot. The wire does not enter the joint, hence there is very little danger of suppuration. The operation takes but a few minutes, and the knot is so placed that it cannot be knelt upon. A joint distended with blood must be aspirated.—*Univ. Med. Mag.*

THE CAUSE OF DEATH AFTER BURNS.—Salvioli (*Centralblatt für Chirurgie*), says that the cause of death after burns is due largely to the involvement of the blood vessels in the different organs. According to Bizzozero, the great increase of blood plates in the normal circulation is essentially the result of burns. When the mesenterium of mammals is examined microscopically, and then heated to a temperature of from 50 to 55 C., it is noticed that the flow of blood becomes quickened, and that the blood plates collect along the walls of the vessels and cause the formation of white thrombi. These, in turn, are torn loose by the blood stream, and as a result we have an enormous number of emboli. In certain cases, and especially when considerable heat has been applied, the blood does not circulate. This condition of stasis is partly due to thrombotic and embolic conditions, which stop up the arteries; partly to contraction of the arteries; and, lastly, to a change in the red blood corpuscles, which become sticky and hang together and thus hinder the blood flow. After death, numerous emboli are found in the lung parenchyma and many blood-plate thrombi in the vessels. To prove that these results are due to the increase in number of the blood plates, we have only to defibrinate the blood, and the application of heat will produce but little effect. In performing this experiment it is necessary to remove a large quantity of blood defibrinate by whipping, filter, and again inject into the animal. This should be repeated ten times in two hours. Through this process the blood loses its power of coagulation, and is poor in blood plates. Before this procedure, one plate to thirty-five corpuscles was counted; after it, one in two hundred and seventy.—*Univ. Med. Mag.*

INDICATIONS FOR THE USE OF CIMICIFUGA.—According to Dr. Reed, ten to thirty drops of the fluid extract after meals are used to cure seminal emissions. This has rarely failed in his experience. Half a grain to a grain of the resinoid cimicifugin, twice a day, has occasionally been found useful in conditions of nervous depression, hysteria, and incipient melancholia. Five to twenty drops of the tincture, several times a day, have proved very helpful in scanty menses, especially in maiden ladies; but if repeated, as often as every three hours even, are likely to cause severe headache. This untoward effect he has never seen from the largest doses, such as half a drachm or a drachm of the fluid extract three times a day. Very small doses, as one-quarter of a drop up to one drop of the ordinary tincture, repeated every one or two hours, will often promptly relieve a frontal headache due to mental fatigue, or any kind of a headache resulting from pelvic congestion at the menstrual period in women. The same doses are often efficient in preventing abortion when threatened from weakness or passive congestion of the uterus, or from habit at a certain stage of pregnancy. Two or three drops of the tinctures of cimicifuga and gelsemium—sometimes one drop of each—every hour or two, are among the most certain means of bringing on the menstrual flow when delayed by passive congestion, cold, or other similar cause, and acts similarly with the lochial discharge after parturition. Dragging pelvic pains arising from the same causes may be relieved by the same combination.—*American Therapeutist.*

THE SIGNIFICANCE OF VAGINAL DISCHARGES.—A leucorrhœa inodorous or of mild odor persisting during the climacteric, accompanied by increasing hæmorrhage, is suspicious, and demands investigation. A leucorrhœa profuse, of peculiarly fœtid odor, grumous, excoriating, appearing early or late during the climacteric, with profuse hæmorrhage, is reasonable evidence of cancer of the cervix. A leucorrhœa moderate in amount, ill-smelling (the peculiarly fœtid odor of cancer of the cervix being absent), accompanied by hæmorrhage, suggests cancer of the corpus uteri. A leucorrhœal discharge with hæmorrhage containing material like the washings of meat, is said to indicate sarcoma. A watery discharge, as a rule, occurring during menstruation, odorless, or of little odor, persisting, accompanied by profuse hæmorrhage, indicates fibroids; with little or no hæmorrhage, polypi. Profuse bloody discharges coming on gradually with declining menstruation, ceasing usually with the menstrual flow, point to fibroids. Persistent profuse discharges of blood occurring spontaneously, arising from sudden exercise or coition, occurring, as a rule, after the menopause, indicate cancer. A gradually increasing amount of menstrual flow is suspicious and needs investigating. "Post-climacteric hæmorrhages in a fibroma of the uterus of long standing, form one of the principal

grounds for the suspicion of sarcoma." (Borner.) The early recognition of malignant disease is demanded and possible prevention of the fatal exhaustion which accompanies it by the administration of drugs, and the application of those methods which, in a measure, may be supposed to offset the terrific drain on the nervous system; inasmuch as present experience shows that early removal of diseased tissue prolongs life, and the importance of early diagnosis and treatment can hardly be over-estimated.—*N. E. Med. Gazette.*

A CASE OF MYXEDEMA THAT TERMINATED FATALLY IN THE COURSE OF THYROID TREATMENT.—Thomson (*Edinburgh Medical Journal*,) has reported the case of an unmarried woman, fifty-one years old, who for ten years had presented well-marked, but not very severe, symptoms of myxedema. For five years the woman had been living a quiet life and the disease had progressed but slowly. For many months she was greatly relieved by taking thirty minims of tincture of pilocarpus three times a day. In this way her skin was kept comfortably moist, but the dryness of the skin ceasing to cause any annoyance the medicine was omitted; so that for some years the woman had had no special treatment for the myxedema. Dyspeptic symptoms, with constipation and hæmorrhoids, with chilliness and a distressing feeling of weakness and disinclination for exertion, persisted. On one occasion the woman had been seized with severe pain in the precardium, extending down the left arm. This recurred from time to time in varying intensity. Treatment with the thyroid gland of the sheep was instituted, at first a quarter of a gland and soon a half of a gland being given, twice a week. Nitro-glycerin (♏ j. of a 1 per cent. solution) was also administered for the relief of the paroxysmal pain. Notable improvement in the woman's condition took place, but upon attempting to sit up in bed on one occasion she suddenly fainted and died. At the *post mortem* examination the cerebral arteries were found to be atheromatous. The pituitary body was enlarged and firm and its fossa deep. The thyroid gland was flabby and of diminished volume. The thymus was wanting. The heart was in a condition of advanced degeneration. It is pointed out that while the state of the heart-muscle was sufficient to account for the fatal syncope, the treatment may possibly have had some influence in hastening the fatal issue.—*Med. News.*

THE ETIOLOGY OF GOITRE AND CRETINISM in the Pyrenees has been made the object of special researches by Dr. Chopinet. He arrives at the following conclusions:

1. Goitre and cretinism are symptoms of one and the same disease and are observed almost exclusively in the bottom of valleys and near rivers.

2. The intensity of this endemic trouble increases from the source of a river down to where it leaves the outskirts of the mountainous region. It is most marked in the widest part of the valleys.

3. The disease is decreasing at present in the whole district. From some places that used to be affected it has disappeared altogether. This change cannot be attributed to a change in the chemical condition of the drinking water, but is due to the improved hygienic conditions and to the general progress of the population.

4. It cannot be denied that one of the constituents of the soil, viz., the schistic lias, has some injurious influence.

5. Amongst the numerous causes of goitre and cretinism, humidity and uncleanliness of the houses, defective of aëration, want of light and poor nutrition are prominent.

6. In the district studied by Chopinet this theory of the multiple causation of the disease is the only one that is not contradicted by the facts.—*Rev. Interna. Bibliog.*

THE END OF HOMŒOPATHY.—In a paper read before the Philadelphia County Medical Society, Dr. John B. Roberts, with entire sincerity of spirit, indicated numerous points of resemblance between so-called homœopaths and regular practitioners, and points out that the treatment pursued by both is practically the same. If the position that Dr. Roberts takes is the correct one (note well, however, the qualifying *if*), there is no true homœopathy, and those who have designated themselves homœopathists will do themselves credit and increase their usefulness by absolving themselves of all sectarian designation. Under such circumstances we believe that we could bring ourselves to forgive them their little and fading delusion of *similia similibus curantur.*—*Med. News.*

CASCARA SAGRADA AS AN ANTHELMINTIC.—Dr. J. Stephen regards cascara sagrada as an effective remedy for tape-worm. He used the following formula:

℞—Fl. ext. cascara sagrada, . . ʒ vj.
Syrup of orange peel, . . . ʒ iiiss.—M.
Sig.—Three teaspoonfuls daily; for children half this dose.

By means of this remedy he claims to have expelled, in several cases, the tape-worm.—*Lancet Clinic.*

CYSTITIS IN WOMEN (*Jour. de Med. de Paris*).—
℞—Pot. Citrat. . . . . ʒ ss.
Ext. Trit. repentis, fl.
Tinct. Belladonnæ, ... āā ʒj.
Ext. buchu, fl. . . . . ʒ js.
Aq. . . . . āā ʒ jv.
Sig.—ʒ j. in a wineglassful of water three times a day.

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BANNF HOT SPRINGS

At the present time, when the tide of summer travel has set in, and each train is loaded with passengers seeking health or recreation in various parts of the country, at the seaside or in the cool depths of the forest, we consider it our duty to draw the attention of those invalids or tourists who wish to unite recreation of the most valuable kind with a sojourn at the most valuable "Hot Springs" in America, to Bannf Springs, situated in the heart of the Rocky Mountains. It is frequently the case that people will travel extensively in foreign lands in search of health or strength, enduring all the discomforts incidental to such journeys, which seriously make against them, especially in the case of ladies, or aged persons, when much nearer home they could enjoy themselves much better at a less cost, which is no little consideration, and with every comfort that modern civilization can command.

While Bannf may be considered as being a very long distance from Ontario, it is only relatively the truth, for owing to the speed and safety of the trains of the Canadian Pacific Railway, it is only a three days' rest in a luxurious coach. with every faculty brightened by the rapidly flitting panorama of pine forest, and lake in Ontario, flower spangled prairie in Manitoba, Assiniboia and Alberta, and to cap the climax, the sight of the grandest mountain chain probably in the world, "The Rockies;" raising to the highest point, the spirits of even the most confirmed invalid.

The great value of Bannf, apart from its scenic beauty, consists in its thermal, alkaline and sulphur springs, and great altitude above the sea level.

The tourists or invalids will find that they have the choice of several excellent hotels, of which the palatial structure of the Canadian Pacific Railway is the best.

In appearance it is like a large Swiss châlet, very nicely situated in a valley between two immense mountain ridges, 4,000 feet above the sea level.

The accommodation is the very best, every bedroom being lighted by electricity, while the weary pilgrim taking his first wash will find that the management have placed nothing commoner than "good washing soap" at his disposal.

The table is excellent, every delicacy of the season being served in a maner equally pleasing to the palate of the epicure, and the fastidious stomach of the chronic invalid, and all this, remember, at a most moderate price.

Thoroughly resting after the fatigue of the journey, one may gratify his or her inclination as the case may be, in various ways. For the sportsman there is excellent fishing, shooting and boating in the neighborhood. The mountain climber will find trustworthy guides to show him the paths leading to the summit of any of the giant peaks which tower in all directions. The invalid may bathe his stiffened joints in the healing thermal waters which are brought to the hotel by means of pipes, fresh from its source in the bowels of the earth, laden with medicinal virtues. And for those fond of pedestrian exercise, there are pleasant shady walks innumerable, where one may saunter, inhaling health and strength with every breath of the healing ozone-laden air, rich with the balsamic odor of fragrant pine forests.

Owing to the elevation of the situation, the rarity of the atmosphere causes a greater expansion of the air cells of the lungs, increasing the vital capacity of the chest, as well as the force of the heart's action, the effect being tonic and stimulating in the extreme, especially valuable where there exists any tendency, hereditary or acquired, to chronic pulmonary disease. Among "the ills to which flesh is heir to," particularly to be benefited by a sojourn at Bannf, might be enumerated incipient phthisis (pre-tubercular stage especially)

chronic bronchitis and asthma, where the heart has not become concomitantly affected, hay fever, skin or joint affections of a gouty or rheumatic character, and the neurasthenia or nervous debility of the overworked professional or business man.

Other diseases might be added by the score, but the foregoing are the ones most benefited by "taking the waters" which are of remarkable efficacy in chronic rheumatism, syphilitic and other skin diseases.

Many persons were met with by the writer who, after patronizing in vain the "spas" of Europe, at length found alleviation of their ills in the healing waters of Bannf.

Others were seen, who, having come on crutches, confirmed cripples, were, after a due trial of the baths, enabled to return to their homes enjoying a comfort of body and mind to which they had been strangers for years.

The analysis of the water made by the Government in 1887, shows the composition to be something as follows per 100,000 of water:

Sulphuric anhydride	51.26
Calcium salts	24.43
Carbon dioxide	16.47
Magnesium oxide	4.14
Sodium salts	27.53
Lithia	traces
Total	123.88

It is supposed, however, that the above is only approximately correct, the analysis not having been made on the spot, which is essential to a correct result. It is sufficient to enable us, however, to form an idea of the great therapeutic value of the water.

Nothing more need be said about the actions of springs, but we cannot urge too strongly that people desirous of enjoying the full benefit of the springs go during the summer or early fall months, and they will be amply repaid for their journey.

FOR CHRONIC URETHRITIS.—The (*St. Louis Cor. Med.*) gives the following:

R—Ext. hydrastis, ... f℥j.
Zinci sulphat., ... gr. xvj.
Morphinæ sulphat., ... gr. iv.
Aquæ dest., . . . q. s. ad ℥viij.—M.

Sig.—Inject four times a day to begin, and gradually reduce as the discharge diminishes.

THE ONTARIO MEDICAL COUNCIL.

At its first session the Council elected Dr. C. Campbell, of London, as its President for the current year. It need only be said that he performed the duties of the office in a very satisfactory manner. Dr. J. Philip, of Brantford, was elected Vice-President. The principal committees remained of practically the same complexion as last year.

The report of the Chairman of the Finance Committee showed the affairs of the Council to be in a better condition as regards money matters than for some time past. The reason advanced for such satisfactory showing is the power till lately vested in the Council for collection. The only liability now is the mortgage on the building.

The Discipline Committee reported on the cases of Dr. McCully and Dr. Anderson, the same day. In each case the sentence was suspended during the good conduct of the offenders. It may be noted that the remarks lately made by *The Mail* as to the power possessed by the Council to deal leniently with such offenders, are, we think, not correct.

The wisdom of such suspension of sentence during good conduct, by the Council, was well shown in the recent appeal by Dr. Washington against the action of the Council in striking his name from the rolls, when it was held by the judges that such lenient action greatly strengthened the Council's position in the said appeal. Therefore it is reasonable to suppose that if in future any appeal be made against the final disqualification of offenders by the Council, the same strong position will have been made for that body, and not only so, but a precedent will have been established in this utterance of the judges in the former case.

A very important and necessary change has been made regarding therapeutics, that subject being now taken at the intermediate examination, and being made a separate subject, by having an examination paper set for it alone, instead of being joined with the paper on medicine as heretofore. There is now no examination in therapeutics at the primary examination, and the anomaly examining second year men, in what is essentially a final, and most important final subject, is done away with.

The subsidy of six hundred dollars to the *Ontario Medical Journal* has been again granted. When the Council last year saw fit to give to a new and untried journal all its prestige, and a subsidy besides, to the discountenancing of the two old and tried journals, we considered a dignified silence as to the injustice of the act, the wisest course to pursue. The Council was at that time in dire peril, and the *free journal* to every registered medical practitioner in the province was the sop thrown.

That a journal partly owned by a member of the Council, should be subsidized, and in effect rendered the official organ of that body, is to say the least, a proceeding rather peculiar.

This year the *Practitioner* and LANCET offered to publish all the proceedings free of charge, and to pay for the stenographer's report, if the subsidy should be discontinued. But in spite of this obvious means of saving several hundred dollars, the subsidy was again passed.

We wish our readers to know what treatment has been extended to the two old journals by a body which they have always supported. For the Ontario Medical Council, has always had, and has still, the loyal support of those journals. Had it been otherwise, and had the old journals joined the ranks of the Medical Defence Association last year, the Council might have felt the result in a way not to their advantage. But believing that the Council has honestly endeavored, in spite of the cliquism which we believe in former times existed, and to a certain extent still exists, to do its best for the interests of the profession, we have stood by that body. They on the other hand, have seen fit to give a severe blow to independent medical journalism in Ontario, and in spite of our memorializing them, and offering to save them several hundred dollars of disbursement, have gone on for another year.

What lies at the bottom of such action? Has there been any pledging of the members to the one member who is personally interested in the subsidy? Has there been any canvassing of the members done, during the past year, and before the Council met?

It may yet be found that the true interests of the profession and of the Council lie in the direction of absolute fairness exercised towards all medical journals.

THE ONTARIO MEDICAL ASSOCIATION.

The late meeting of the Ontario Medical Association was not so largely attended as some others have been, but the opinion of those who ought to know whereof they speak, is that it was one of the most successful of the whole series. Toronto has this year the honor of furnishing the President in the person of Dr. Laughlin McFarlane. We are assured that the Association could not have chosen a more efficient or popular candidate. The Secretaryship remains with Dr. D. J. Gibb Wishart, now in his sixth year of office, a fact which speaks well for the manner in which he has conducted the business of his department.

The social side of the gathering was more than usually prominent this year. The Association was invited by the trustees of Victoria Hospital to visit the building where an excellent lunch was provided, and speeches galore were in order. From the building the guests were conveyed to the Lakeside Home, and around the Island, the whole entertainment being very enjoyable, and one which will redound to the generosity of the trustees, and work for the popularity of the hospital.

The papers read were up to the average, and the discussions were more thun usually good.

Then the Association's luncheon at Webb's was thoroughly enjoyable, and we think the members went home feeling at peace with themselves and the world.

THE FRENCH TREATMENT UF ANGINA PECTORIS.—M. Huchard, in an abstract in the *Gazette des Hôpitaux* (*London Pract.*), from his recently published work, directs attention to the importance of distinguishing between true (coronary) angina and pseudo-angina, which, associated by the presence in both of neuralgia of the cardiac nerves, are separated by the occurrence, in the true form only, of ischemia of the myocardium. M. Huchard considers the treatment of angina pectoris under four heads.

1. Preventive Treatment.—Here we must combat the tendency to high arterial tension, and attend to hygienic methods, particularly diet. Treatment must likewise be directed against aortitis and arterio-sclerosis by the use of milk and of iodides and nitroglycerine. On account of the tendency of aortitis to narrow the coronary orifices, and

thus to hamper the nutrition of the cardiac muscle, we must endeavor to diminish the work of the heart, attending especially to the peripheral vessels. Treatment to this end by means of the iodides is all important. The iodide of potassium is given in doses of fifteen grains three times daily. As loss of appetite, epigastric pain, and diarrhœa may arise, it is well to give the drug for twenty to twenty-five days only in each month, nitro-glycerine in small doses being prescribed in the intervals.

2. Curative Treatment of the Attacks.—Under this heading we may prescribe amyl nitrite by inhalation, or nitroglycerine in one-tenth grain doses, three or four times daily, for a period of seven or fourteen days. On account of the tendency of nitrite of sodium to change hemoglobin into methemoglobin it is not looked upon with favor. Morphine produces increased cardiac action and passive dilatation of peripheral arteries, with consequent lowering of pulse tension, besides exerting a sedative and analgesic effect. By combining the nitrites with morphine, good results are often obtained; and if the nitrites fail, one-third of a grain of morphine hypodermically is of great value.

3. With respect to the treatment of *complications*, renal insufficiency and cardio-sclerosis appear during the periods of freedom from anginal attacks. Cardiac dilatation of paresis and syncope are due to the influence of the attacks. Heart tonics, especially digitalis, are indicated in cardio-sclerosis and cardio-paresis. For renal insufficiency we must favor depuration of the blood, and suppress all kinds of food liable to the formation of ptomaines. Caffeine, ether, or nitroglycerine, injected subcutaneously, is advised in syncope.

4. M. Huchard refers, lastly, to useless or dangerous methods. Such are electricity and cocaine, bleeding, bromides, hypnotics, inhalations of oxygen, belladonna, and aconite. Briefly, therefore, we must combat pain, direct treatment alike against arterio-sclerosis, the development of which leads to degeneration of the cardiac tissue, and against lesions of the coronary arteries, and, above all, against cardiac ischemia, which is the "chief and only danger" in this affection, and thus we should at a very early date, when signs of arterio-sclerosis appear, even in the absence of anginal symptoms, commence the iodide treatment.

TREATMENT OF DYSMENORRHEA.—Dr. Thomas E. Craig, of Lawrenceburg, Ind., give the following formula to *The Prescription*, containing $\frac{1}{240}$ grain of corrosive sublimate to the dose.

℞.—Resinæ guaiaci, ...
Terebinth. canadensis, . . āā ℥. i.
Ol. sassafras, ... ℥. ii.
Alcohol, ... ℥. viii.
Hydrarg. corros. chlor, . . . gr. ii.

Dissolve the guaiacum and cannadensis balsam in one-half of the alcohol, and the corrosive sublimate in the other half. Mix and filter, and then add the oil of sassafras.

Dose, ten to fifteen drops three times a day, to be given in a capsule or dropped on dry sugar.

The doctor called it a "specific in dysmenorrhea, also in chronic endometritis."

He further states as follows: "I have used it for twenty years or more, and have given the formula to several physicians, and have never heard of a failure, when properly prescribed and taken. I have prescribed it in cases of dysmenorrhea when the suffering was almost unendurable, but success was the result, after being taken four or six weeks."

THE JUSTIFIABLE PREVENTION OF CONCEPTION.—The physician not infrequently has to warn against conception in cases where a pregnancy would endanger the life or the health of the patient. (*Med. Age.*) Pelvic contraction, abdominal and uterine tumors, etc., form such an indication. The advice to abstain from coitus is but seldom followed, and the means usually employed to prevent gestation (mechanical) are objectionable from a hygienic and ethical point of view. Kleinwachter has endeavored to find a remedy which would have none of the aforementioned drawbacks. He prescribes a cacao-butter suppository containing 10 per cent. of boracic acid to be introduced high up into the vagina. These suppositories dissolve in about one hour, and the liberated acid destroys the spermatozoa. Bichloride of mercury in 0.001-gramme doses can also be used, but in that case a vaginal douche has to follow the sexual act. The solvency of the suppository is heightened by adding one grain of oleum olivæ. The author considers this a safe and sure remedy to prevent conception. Therapeutic effects may be combined by the add-

ing of various drugs—for instance, tannin in cases of uterine catarrh.

THE EMPLOYMENT OF SODIUM SALICYLATE BY ENEMA IN THE TREATMENT OF ARTICULAR RHEUMATISM.—As a result of the employment of sodium salicylate by enema in the treatment of fifteen cases of acute articular rheumatism, seven of chronic articular rheumatism, one of pneumonia, one of puerperal septicemia, and in a healthy individual, Erlanger (*Archiv für klin. Medicin* ; *Med. News*), recommends this method of medication in all cases in which the salicylates, though indicated, cannot, for one reason or another, be taken by the mouth. It is essential, in order that absorption take place, that, if the bowels have not been spontaneously moved, a preparatory enema of water be given to clean out the lower bowel. The medicated enema should contain from a drachm and a-half to two drachms of sodium salicylate, with half a drachm of tincture of opium and three ounces of water. It should be warm, and is best administered in one dose. The nozzle of the syringe should be introduced into the bowel for a distance of about eight inches. The patient is to be instructed that the enema is to be retained and not expelled.

GASTRIC CATARRH.—Dr. Whittaker, in *Lancet-Clinic*, says: Pure and simple gastric catarrh is curable in a short time, usually at most in two weeks, by the use of the stomach tube every day, best at bed-time, and the administration of hydrochloric acid. It seems to me that I have never had anything so satisfactory in the treatment of chronic gastric catarrh. I have seen so many men, who believed themselves victims of cancer, plunged in despair, cured in two weeks by simply washing out the stomach at bed-time and the administration of hydrochloric acid, with some regulation of the diet. I give milk and all mildly-cooked meats, and certain vegetables—pineapples, celery, aspargus, spinage, lettuce, onions. It is a great mistake to treat these cases without an appeal to the vegetables; but the stomach tube, I repeat is the *sine qua non*. It almost renders everything else superfluous in the treatment of gastric catarrh.

TANNIN AND BORIC ACID IN DYSENTERY.—Dr. Liebersohn (*Vratch*) reports two cases of severe acute dysentery which were treated by hot enemata of tannin and boric acid. The results seem to show that the injection speedily arrested the intestinal hæmorrhage and quickly restored the natural character of the passages. Pain and tenesmus were immediately relieved and the course of the disease materially shortened. The enemata were given every three hours, each consisting of one fluid pound of a four per cent. solution of boric acid, ten grains of tannin and three and three-quarter drops of tincture of opium, the whole to be dissolved in a tumbler and a half of hot boiled water. The injecting fluid was retained in the bowel for one or two minutes.

TREATMENT OF BOILS BY BORIC ACID.—*L'Union Médicale* (*Therap. Gaz.*) quotes Alison as having obtained good results in the case of general furunculosis by the administration for eight or ten days of from ten to fifteen grains of boric acid a day, divided into two doses. At the same time, four or five times a day, the inflammed areas were washed with a hot solution of boric acid, in the strength of four per cent. Between the applications of this lotion compresses were applied to the diseased parts, which had been wet with the same solution of boric acid. In this way he claimed to have been able to relieve the boils which had already formed, and to do much towards preventing other outbreaks. By this means he thinks it possible to avoid surgical intervention.

FOR SCIATICA.—Dr. Lawrence in *Amer. Pract. and News* recommends the alcoholic solution of nitro-glycerine, one per cent, commencing on one drop three times a day, and gradually increasing to five drops three times a day.

GELSEMIUM FOR LUMBAGO.—It is stated that ten drops of tinct. gelsemium every four hours, will almost invariably relieve that painful condition or backache, commonly called lumbago.

FOR MYALGIA.—(*Med. News.*)

℞.—Ext. emicifugæ fluid.,
Ext. erythroxyli fl.,
Tinct. guaiac ammon. . . . āā ℥j.

M.—Sig. Take a teaspoonful three times a day

VENEREAL SORES.—Don't cauterize a sore or excoriation on the penis until you find out its character, for the caustic action may mask the true

nature of the lesion so as to leave your patient a lifetime of doubt.

For a herpes use a dry soothing powder, or the powder on absorbent cotton.

For a chancre, equal parts mercurial ointment and oxide of zinc ointment is a pretty good dressing, but you will not hasten the cure much.

Thorough cleansing of a chancroid and a good antiseptic dressing is useful. Caustics don't help matters much in any of these, and may do much harm in herpes.

FOR SWEATING FEET.—A wash alone will not cure the trouble. Dusting the feet every morning with a mixture of tannin and salicylic acid, with a pinch of same in each shoe, will generally give relief. But where this fails the following is said (*Indiana Pharm.*) to be a sure cure:

℞.—Boric acid, ... 80 grains.
Borax, Salicylic acid, } of each . 1½ ounces.
Alcohol, ... 2 ounces.

M.—Rub the feet morning, noon and night with this solution, after washing them well in hot salt water or a permanganate wash.

INJECTION FOR CATARRH OF THE BLADDER.—It is reported that Mosetig (*Med. Sum.*), a foreign authority, uses the following prescription in catarrah of the bladder:

℞.—Iodoform. . . . . ℥ iss.
Glycerin. . . . . ℥ x.
Boiled distilled water. . . . ℥ iiss.
Gum tragacanth. . . . . gr. iv.

Wash the bladder out with warm water which has been boiled, and inject for three days a tablespoonful of the mixture named in a pint of water. It is stated that three or four injections are ordinarily sufficient to cure chronic cases of cystitis.

VOMITING OF ANESTHESIA.—Vomiting during anesthesia may be arrested by compression of the phrenic nerve and vagus. Dr. Joos, of the Cantonal Hospital at Winterthur, applies compression with the thumb on the left side, immediately above the sternal end of the clavicle. The hand is held flat on the thorax and the thumb is parallel with the clavicle. In Dr. Joos' experience the vomitond hiccough forthwith ceases. He also suggests that this treatment might be useful for the relief of seasickness.

DIPSOMANIA.—Dr. Kitto writes to *Merck's Bulletin, Med. Rec.*, that he has used the following formula in several hundred cases, and that it positively destroys the desire for alcohol:

℞—Ichthyol, ... ℥ ij.
Sulphate of hydrastine, ... ℥ ss.
Resorcin, ... ℥ ij.
*Watery solution of calumba, . . ℥ iij.
Tincture of nux vomica, ... ℥ iij.
Sol. acet. ammon. *(recent)* q. s. ad ℥ vj.

Two teaspoonfuls every three or four hours while awake, during a period of two or three weeks.

* Made by evaporating the tincture to dryness and taking up the residue with an equal quantity of water.

TREATMENT OF ECZEMA OF THE VULVA.—Lusch recommends, *Therap. Gaz.*, the following prescription in this condition:

℞—Tincture of opium,
Bicarbonate of sodium, . . āā ℥ ij.
Bicarbonate of potassium, . . ℥ j.
Pure glycerine, ... ℥ iss.
Aquæ destil., ... ℥ viij.

Make a solution, and apply it hot, morning and night, to the diseased area. After each lotion, powder the parts with the following:

℞—Finely powdered starch, . . 49 parts.
Finely powdered camphor, . 1 part.

A VALUABLE DIURETIC AND CARDIAC TONIC.—
℞—Juniperi . . . . . ℥ xii.
Potassii acetatis . . . . ℥ viii.
Digitalis . . . . . ℥ ii.
Scillæ . . . . . ℥ i.
Vini albi . . . . . O viii.
Spiritus rectificati . . . O i.—M.

Sig.—Two teaspoonfuls at a dose.

FOR ANEMIA WITH CONSTIPATION.—
℞—Extracti nucis vomicæ . . . gr. ¼.
Ferri sulphatis exsiccatæ . . . gr. i.
Aloin . . . . . gr. ¼.
Pulveris myrrhæ . . . . .
Pulveris ipecacuanhæ . . . āā gr. ss.
Extracti gentianæ . . . . . gr. ii.

Misce et fiat pilula. Sig.—To be taken every night.

A HINDO VIEW OF MALARIA.—As a curious illustration of a fundamentally correct idea existing in the traditions of a nation, the following pas-

sage from Orton's work on cholera, published in 1831, is of interest (*N. Y. Med. Jour.*:) "The natives of India are an enlightened race. Some idea of the value of their opinion on any doubtful subject may be formed from the fact of their universally believing that malaria fevers are owing to drinking bad water." Time has justified the Hindoo rather than Orton's belief.—M.

For Sciatica.—Dr. Charles B. Lawrence (*Am. Pract. and News*) says, of an intractable case of sciatica that finally nitro-glycerine was given in an alcoholic solution of 1 per cent. strength, commencing with a dose of one minim three times a day, gradually increased up to five minims. Improvement was almost immediate, and in ten days the patient was able to walk to his work. A complete recovery ensued.

Vaginismus.—The following is recommended by De Sinety, *N. Y. Med. Rec.*, as affording relief in obstinate cases of vaginismus:

℞—Thymol, ... grs. iij.
Ext. belladonnæ, ... grs. xij.
Potassii bromidi, ... ʒ ss.
Ol. theobromæ, ... ʒ iv.
M. et ft. suppositoria No. iv.
Sig.—One suppository, as needed.

For Urticaria of Children (*L' Union Méd.*):

℞—Chloral hydrat.,
Camphoræ pulv.,
Acaciæ pulv., ... ãã ʒ j.
Triturate until liquefied, and add
Cerat. simpl., ... ʒ j.—M.
Sig.—Apply topically.

Migraine.—Migraine may be relieved, Lucking says, *Hosp. Gaz.*, with a pill, twice daily for some time, consisting of Indian hemp one-sixth grain, phosphide of zinc one-tenth grain, and arsenic one-thirtieth grain. The severity of the attack may be effectually diminished with liquor trinitrinæ in minim doses two or three times daily.

For Acne.—Dr. G. T. Elliott prescribes:

℞—Zinci sulph., Potass. sulphuret., } ãã . . grs. v-xxx.
Aquæ rosæ, ... ℥ j.
Sulphuris præcip., ... grs. xx-xl.
M. Sig.—Apply to face three times a day.

Dyspepsia.—Dujardin-Beaumetz recommends (*Therap. Gaz.*) the following:

℞—Bismuth submit.
Magnesii sulph.
Cretæ preparat.
Sodii phosphatis, } . . . . . ãã ʒiii.
M.—Div. in pulv. No. xi.
Sig.—One after each meal.

The Surgeon's Enemies, says Lister, are almost always sporeless bacilli, though some of these show great resistance to the action of antiseptics, such as the staphylococcus pyogenes aureus, the common cause of suppuration. It has, nevertheless, been shown that carbolic acid destroys these organisms more rapidly than corrosive sublimate.

Osseous Suture is considered by Hennequin of very problematic usefulness, excepting in the patella and olecranon, or in pseudoarthrosis after fracture, in which the lower overrides the upper fragment, from which it is separated by soft structures, or when the end cannot be brought into apposition or kept so by external apparatus.

Man, born of woman, is of few days and no teeth. And indeed it would be money in his pocket sometimes if he had less of either. As for his days he wasteth one-third of them. And as for teeth, he has convulsions when he cuts them; and as the last one comes through, lo! the dentist is twirling the first one out; and the last end of that man's jaw is worse than the first, being full of porcelain and a roof-plate built to hold blackberry seeds.—*Burdette.*

For Obstinate Vomiting of Pregnancy.—Fluid extract of golden-seal has, according to Fedorow (*Med. Rec. Therap. Monat.*) proved to bean excellent remedy in the treatment of obstinate vomiting pregnancy. Fedorow prescribes 20 drops of the fluid extract four times daily.

Personals.—Dr. Murray McFarlane, of Toronto, has been appointed oculist and aurist to St. Michael's Hospital.

Dr. E. A. Spilsbury has removed to 189 College Street, corner of Henry Street.

In simple atony of the uterus ten or fifteen drops of the wine of ipecac., given at intervals of

ten minutes, will (*Annals of Gynæc. and Pediatry*), cause a marked activity in uterine action. Its effect is not tetanic, the contractions being of a regular normal type.

We regret to have to announce the death of Thomas R. Dupuis, M.D., Professor of anatomy and clinical surgery in the medical department of Queen's University, Kingston. The Dr. died on Sunday 25th inst., after two weeks illness.

MARRIED.—On Wednesday, May 24th, at St. Paul's Church, Oakland, Cal., Mary P. Collier, Point Edward, Ont., to J. E. Pickard, M.D., Virginia, Neb.

A scientist who has investigated the matter, states that the men who are employed in the Paris sewers are as healthy as the average person, and no other 800 men in that city are so free from zymotic diseases.

Tampons soaked in oil of turpentine are said to control nasal hæmorrhage. If the oil should cause much irritation of the mucous membrane it may be diluted.

A simple preventative of bed wetting is that suggested by Dr. Von Trenton, viz., to raise the foot of the bed so that the child lies on an incline with the opening of the bladder uppermost.

Books and Pamphlets.

EYE, EAR, THROAT AND NOSE. By F. E. Miller, M.D., Throat Surgeon, Vanderbilt Clinic, N. Y.; James P. McEvoy, M.D., Throat Surgeon, Bellevue Hospital, N. Y., and John E. Weeks, M.D., Lecturer on Ophthalmology and Otology, Bellevue Hospital Medical College, N. Y. Students' Quiz Series. One of the series written by practitioners and teachers of New York City, and edited by B. B. Gallandet, M.D. Philadelphia: Lea Bros & Co.

This seems to be quite up to the mark set by the rest of the series, and being on subjects which are relegated largely to the specialist, must contain much which would be profitable reading to the general practitioner and student. The method of instruction which obtains in most of the good American institutions has led logically to condensations such as this series includes, and while excellent for review purposes, cannot be said to conduce to the wide training which results from broad handling of a subject. It seems impossible but that the student trained after such models should be a casuist, a Jesuit, in medicine, a dealer in detail, rather than in broad generalizations. To illustrate, he is apt to study, for instance, inflammation of the eye as one thing, and inflammation of a joint as another, instead of learning the broad lines of treatment for inflammation as a process unchanging in character wherever found.

HYDROTHERAPY AT SARATOGA. By J. A. Irwin, M.D., Cantab., M.A., M.D., Dublin University, etc. Cassel Pub. Co., N. Y. 1892. 270 pp.

This little treatise is upon a subject certainly too little enquired into by the general practitioner, who is too apt to succumb to the general demand of the public for drugs rather than other remedial measures. It is written more for the laity than for the profession, partly perhaps as an advertisement of Saratoga's advantages, and with much freedom from the hyperbole that usually characterizes the literature emanating from hydropathic sources. The scholarship evidenced is of a fair order, but the proof is not well read; apart from from this the typography is good.

ELEMENTS OF HUMAN PHYSIOLOGY. By E. H. Harling, M.D., Lond., M.R.C.P.; Joint Lecturer on Physiology at Guy's Hospital, London, etc. 100 illustrations; pp. 437. Philadelphia: P. Blakiston, Son & Co. 1892.

This text-book has been received with great and merited favor by the highest authorities in the medical world. While of course not entering the field with such larger works as Foster's, it aims at presenting in short clear form "the main facts of Physiology that are of importance to Students of Medicine." In this aim the author succeeds, as he is evidently a well-trained teacher. All the details of Histology are left to be learned from other texts. Perhaps the best chapter in the book is the Introduction, a thoughtful and very suggestive epitome of practically all the functions of the human organism. The chapter on "The Fate of Food Stuffs in the Organism—Metabolism," is a summary that every medical man should read at least once in a twelve-month, and the same may be said of the chapters on Special Senses, Spinal Cord, Brain, and Reproduction.

THE ONTARIO MEDICAL ASSOCIATION.

The thirteenth annual meeting of the Ontario Medical Association met in the hall of the Educational Department of the Normal School, June 21st, at 10 a.m., Dr. R. W. Hilliary, of Aurora, in the chair.

Vice-Presidents, Brock, of Guelph; McKay, of Ingersoll; Dr. Sheard, President, and Dr. Birkett, of Montreal, Secretary, of the Dominion Association, were invited to seats on the platform.

Dr. Wishart then read the minutes of the last meeting, which were carried.

As Dr. Powell was absent, the president called on Dr. A. A. McDonald, who read an excellent paper on "Cholelithotomy with Choleduodenostomy, for the Relief of Cholæmia due to Obstruction of the Common Bile Duct." Below is an excerpt of the paper:

Gall stones may exist for some time in the gall bladder and produce no definite symptoms, but not so when they become impacted in the common duct. The treatment for this lattter condition has heretofore been unsatisfactory, but now such advance has been made in the way of surgical treatment that it appears that it will be placed on a scientific and satisfactory basis. Chronic jaundice depends upon obstruction to the flow of bile. Where the jaundice is due to a new growth, the following are some of the symptoms: emaciation, dyspepsia, flatulence, absence of bile in the fæces, its presence in the urine, etc., death ensuing usually within a year. When due to impacted gall stones or stricture, the symptoms are not so constant, and the case may last for years. The presence of gall stones in the gall bladder cannot be accounted for, although they are frequently found at autopsies in subjects over 60 years old. The assigned causes are: Sedentary habits, too much starchy food, constipation, tight-lacing, etc. In order to treat these cases successfully the bile must re-enter the intestine. The doctor then outlined the history of a case he had upon whom this was attempted. After an incision through the abdominal wall the gall bladder and the duodenum were opened and through each incision was put one of Murphy's buttons. These were then approximated, bringing the two serous surfaces together. The patient's jaundice disappeared, but death ensued later. A *post mortem* showed non-union, due to a very low condition of the patient.

The president then gave his address. He said he felt much honored at being elected to the position he occupied, more especially as he was absent from the last year's meeting; and also because the position had formerly been filled by such a distinguished array of men. He referred feelingly to the loss the Association had sustained by the deaths of Dr. Worthington, of Clinton, and Dr Henderson, of Kingston, both past presidents of the Association. He was glad to know that the matter of reciprocal registration of medical men between Canada and the Old Land, rested with the home authorities, but thought not much could be expected from them, when we ourselves had not decided on reciprocal provincial registration. He (the speaker) advocated a Dominion council. He endorsed raising the educational standard for medical men in the Province. He detailed some of the evils of club practice and denounced it. In regard to the Medical Council, he saw much to appove and some things to condemn; but as it was constantly improving in many ways he thought it should be liberally dealt with. He strongly advocated the formation of a club which might meet in the Council building. This would tend to foster a spirit of cordiality and unity among the members of the profession that no other means could. There might be, he thought, some wards made, into which patients brought from outside the city by their physicians upon whom they (the physicians) wished consultation, might be placed for a time. The speaker favored the increase of territorial representatives, and in regard to contested elections, he approved of the method of having the case tried before the county judge. In concluding his address, Dr. Hilliary welcomed the visitors present from the other side of the line and hoped they would be treated by the members of the Association with the same cordiality and good feeling which Canadians were accorded.

Dr. DeGarmo, of New York, said that he proposed to devote his time to the palliative treatment (hernia)—means within the reach of every practitioner. The doctor gave a short account of the history of trusses, pointing out the good qualities and the defects in them. A good truss should hold the hernia completely within the abdominal cavity. No truss for inguinal hernia should have its pad attached by a descending arm; the centre of the pad should correspond to the centre of the spring. He also pointed out the value of the cross-bodied truss. The English truss, however, which had this good point, had too strong a spring. The doctor then showed a truss of his own invention for femoral hernia, which filled the necessary requirements demanded in a truss for femoral hernia. After getting a perfectly fitting truss, the practitioner should watch his patient until cured, seeing him at least once a month, to see that the

hernia was securely held. In infants, the springs were usually too strong. They should be light, waterproof, and should be left on at night. The doctor had treated infants as young as ten days old. There was no lack of appliances, the doctor concluded, but there was of medical men who understood the application of them.

Dr. Barrick said he wished to refer to two or three points mentioned by Dr. DeGarmo. The first was with regard to the pad being in line with the spring; the second, the relation of the pad to the internal ring. He said that in old cases of hernia the internal ring was dragged down towards the external ring, therefore, he thought that the English truss, condemned by the reader of the paper, was constructed on the right principal, the pad being below the line of the spring.

Dr. Grasett said that he agreed in the main with what Dr. DeGarmo had said, but he did not like to hear the English truss condemned so strongly, as in many cases of failure it was not the fault of the truss but was due to some accident by which it was broken or disabled.

The president then called on Dr. Powell, of Ottawa, who addressed the Association on "The Management of Abortion." Syphilis, either through the mother or the male parent, was one of the commonest causes of abortion, and in these cases mercury had been found to be very beneficial. Endometritis, fibroids, malignant disease, and everted or patulous os, and malpositions, were other causes. The last condition was readily treated by keeping the fundus in its proper position for about three months. Sub-involution was another cause of the aborting habit, and in these cases local applications and general medication were needed. In other cases no cause could be given. Rest was an essential part of the treatment, particularly in threatened abortion. He also recommended absence of sexual intercourse, the use of opium, bromide of potash and viburnum for the aborting habit. In primiparæ, where abortion had taken place, hæmorrhage was often arrested by the ovum itself filling up the cervical canal. In multipara the tampon was often necessary. He advised curetting where there was continued hæmorrhage accompanied by retention of a portion of the membrane which were beyond the reach of the finger.

Dr. Temple said he did not agree with the paper in one or two points:—First, hæmorrhage, in his experience, was more severe in primiparæ, than in multiparæ, therefore he would in treating them use the tamon. Second, in primiparæ, he believed that abortions were more frequently due to the patients not taking care of themselves, and were not so often due to syphilis. Third, he considered that the after results, septicæmia, etc., were far more to be dreaded than the hæmorrhage at the time of the abortion.

Dr. A. H. Wright said that he did not agree with Dr. Temple that accident was the chief cause of abortion, as working women in his experience were least likely to abort. To prevent abortion his treatment was rest, opium and pot. brom. as an adjuvant. It was, he said, very difficult to decide that any given case was one of inevitable abortion. When it was inevitable he emptied the uterus of its contents as soon as possible. If those was undilated he used the tampon, but if dilated he generally used his finger to get rid of the contents.

Dr. Powell then closed the discussion. He said that he did not agree with Dr. Temple, as he had found that hæmorrhage in primiparæ was not so severe as in multiparæ, that the ovum filled the canal, and therefore no tampon was needed. He had not said that syphilis was the great and only cause of abortion, but that it was one of the most fruitful sources of it.

The Association was now addressed by Dr. Wilson, of Richmond Hill, on "The Treatment of Diphtheria." The doctor strongly advocated the use of prophylactic treatment in the way of removing all sources of irritation from the mouth, nares and tonsils, and anything that would cause hyperæmia of these parts. The general condition of the system should be kept in the best possible condition and the hygienic surroundings perfect. Early treatment, the doctor said, was necessary in order to lessen the vitality of the germs, and their virulence and power of reproduction. When the membrane was small in amount it was possible to keep it rubbed off and the denuded surface then sprayed with bi-choloride solution. The membrane could be dissolved by papoid, hydrogen peroxide, etc. In many cases where we could not kill the bacilli, we could lower their vitality so that their virulence needed not to be feared. In cases with pain the cold coil should be used. The constitutional treatment consisted of rest, liquid diet, and the administration of tinct. ferri. perchlor.

Dr. Milner, of Toronto, now read a paper on "Diphtheria, Its Cause and Treatment." In speaking of treatment, he said an external application of turpentine was useful, and that among solvents the peroxide of hydrogen was the most reliable. If the membrane formed very rapidly, obstructing respiration, it should be removed. Tincture of iron, he affirmed, was our sheet anchor in treating the constitutional symptoms. Stimulants, also, should be given from the first. The diet should be chiefly iced milk. Speaking of tracheotomy and intubation, he said that intubation should be used in infants under three and a half years old, also in adults. Tracheotomy should be performed in those between three and a half and five.

A paper was now read by Dr. Bryce on "The Public Schools in Relation to the Dissemination of Diphtheria." He showed by statistics gathered,

that school life is the particularly susceptible age. The doctor showed both from epidemics at home and abroad that the schools are a fruitful source of dissemination of the disease. Density of population, bad ventilation, lack of sunshine, decaying matter, etc., are all helpful in spreading the disease. The doctor showed that the cubic amount of air space in the rooms used, the cleanliness of the floors, the frequency with which the air is changed, entered largely into the prevention of its spread. The altered humidity of the air in school-rooms in winter, he thought was a potent factor in the spread of the disease, as it materially affected the condition of the mucous membrane of the respiratory tract.

Dr. Wilson then asked how it was that sanitation had decreased all other diseases, but diphtheria had increased.

Dr. Spencer said he would like to know why the most unsanitary parts of the city were free from diphtheria, while the parts perfect in sanitation were constantly having cases.

Dr. Bryce answered by saying that if the germs could be kept out of the school from the first there would be no danger. But in the most healthy parts of the city, germs had got into the school-rooms from some one affected, and were thus spread by the school, and in this way those parts of the city were infected.

Dr. E. A. Spilsbury read his paper on "Deflection of the Nasal Septum and its Surgical Treatment." The etiology he considered was traumatic, the symptoms were those of catarrh, buccal respiration, with its attendant evils, a change in the voice, etc. The treatment he recommended was removal of the obstruction by incision or by crushing. He gave a history of the different methods employed in operating on a projecting septum, and entered into the details of Delstanche's method, which consists in crushing the septum by using a pair of forceps, having the limb which enters the occluded nostril and which comes in contact with the obstruction, armed with a stellate knife. After being thus straightened, he inserts a splint whose two arms entering the nostrils and brought into contact with the nasal septum, hold it in position till healing takes place. The doctor then gave a history of several cases in which he had employed this method with marked success.

Dr. Primrose then followed, his subject being "The Anatomy of the Child." This paper was highly interesting, because he had frozen sections wherewith to illustrate his paper, also photographs of the same. He said this method of studying anatomy was particularly useful in learning the anatomy of the viscera and the structure of the joints. Many interesting points were to be seen, such as the relations of the antrum, the straightness of the nasal septum, the fascia of the eyeball, the horizontal position of the Eustachian tube, the relative position of the temporary and the permanent teeth, the immaturity of the mastoid cells, the "sucking cushions" so-called, the mediastina, the high position of the apex of the heart, the highly developed diaphragm, the relatively large kidneys and suprarenal bodies, the small pelvis, the abdominal position of the bladder, the vertical position of the rectum, and many other interesting features.

Wednesday evening.

Dr. Arnott, of London, read a paper entitled "A Review of the Diagnosis and Treatment of Asiatic Cholera." He pointed out the difficulty of recognizing the disease before it got a foothold in the community, by reason of its similarity to sporadic cholera. He recommended that every case of diarrhœa be treated with all the sanitary precautions with which cholera is. In such a case the appearance of marked nervous phenomena should make us suspicious. The doctor portrayed vividly the various symptoms of the various stages, and emphasized the necessity of becoming absolutely certain of the diagnosis by a bacteriological examination. He described various conditions of the body and of the surroundings which favored the spread and strength of the disease. In regard to the treatment, he went fully into the discussion of the merits of the different plans employed—the eliminative, the astringent, the sedative and the antiseptic, dwelling on the futility of any and all of them in many cases. The disease ought to be studied from cases uninfluenced by drugs. He opposed the use of alcohol in its treatment. His leanings were toward the eliminative treatment and the application of heat externally and hot douches per rectum.

Dr. Sloan said that he did not agree with Dr. Arnett when he said that opium and alcohol were narcotics and not stimulants. He, Dr. Sloan, had treated many critical cases with alcohol and opium and consequently proved to him that they were stimulants.

Dr. Temple then said that he had seen several outbreaks of cholera in India, and had found that in many cases drugs were worthless; he thought alcohol was the best remedy for it. Warmth should also be applied. Dr. Spencer said that he had seen cholera when in the east, and he agreed with Dr. Temple in every particular. Dr. Hunter than asked Dr. Temple if he would treat the disease among Europeans as he would the people of India. Dr. Temple replied that he would. Dr. Barrick said that he had seen an epidemic of cholera in London, England, and that it depended on the severity of the epidemic and not on the treatment as to the number of deaths. At the beginning of that epidemic the patients got alcohol and died. But as the epidemic got milder they lived in spite of the alcohol. He closed by saying

that he agreed with Dr. Arnott as to the use of alcohol.

Dr. Philp, of Hamilton, now read a paper on the "Prevention of Cholera." The doctor proved by citing several instances, that the progress of the cholera could be checked by quarantine and thorough disinfection, also that it was mainly propogated by the stools of the patient affected, therefore it was imperative that the water supply should in no way become contaminated with the stools of the cholera patients. All excreta, he said should be sterilized by carbolic acid or sulphate of iron, all clothing should be thoroughly disinfected which had come into contact with the contagium and that great cleanliness should be observed and the houses fumigated.

The following synopsis of a paper on "Cholera," was presented to the Association by Dr. Saunders. In speaking of the morbid anatomy, he stated that there were very few characteristic appearances to account for the violent nature of the disease. The speaker described the condition in which the alimentary tract, heart, liver, lungs and kidneys, were usually found. One of the most constant pathological conditions was that the blood was nearly always dark and thick. There were two views as to what caused this. The doctor decided that it was due to the chemical action of the morbific material excreted by the comma bacillus. It must be remembered that the bacillus was destroyed by a heat of 140 F., and by weak disinfectants. Cholera could be diagnosed by bringing a culture of the bacilli into contact with free acid in the presence of oxygen, when a bright red color would be produced.

Dr. Rice, of Woodstock, now read a paper on "The symptoms and Treatment of Cholera." He said that many cases of dysentery, diarrhœa, etc., under bad hygienic surroundings would, if they occurred in infected countries, be classed as cases of cholera. The doctor then proceeded to give the symptoms which were found in the four stages of the disease. Then he dwelt on the treatment, saying that their was no specific line of treatment, but five indications were to be met, viz.:

1. The premonitory diarrhœa. 2. The loss of liquid by the bowels. 3. The low temperature. 4. The toxæmia. 5. The collapse. The first condition could be met with calomel followed by an astringent, with proper food and surroundings.

In the second stage a large dose of calomel should be given followed by successive small doses of the same and opium or chloral or chlorodyne, the latter to be given for the pain, if present. The doctor advised the use of hot antiseptic douches with tannin, for the serous diarrhœa. For the lowered temperature he recommended the continuance of the douches with hot baths. We have, he said, no specific for the toxæmia, but calomel, iron and quinine have been recommended. In the stage of collapse hot baths were advised with injections of whiskey, brandy, strychnia, ether, etc. But usually when this stage had arrived the patient was beyond help.

Dr. Harrison, on being called now addressed the Association on the subject of blood-letting. He said that it had been practised from time immemorial, that Virgil had mentioned it in one of his pastorals. He did not think there were many men who had graduated during the last fifteen years, who knew how to perform venesection. Prof. John Hughes Bennet, he said, gave blood-letting its death blow by his attack against it. The doctor thought that its indiscriminate use also assisted; but he felt sure that this was a very useful agent, which was now so universally discarded by the profession. He said that he had perfect confidence in it as an efficient remedy in pneumonia, in which he had often tried it with success. It was useful, too, in emphysema. It was also useful in the various forms of heart disease, particularly where the right ventricle was overloaded. He also spoke highly of its use in his own practice in the treatment of apoplexy, and also in eclampsia. Even tuberculous patients were often helped. He stated that it was also useful in chlorosis by stimulating the blood forming organs.

Dr. Olmstead in discussion said that he had not had much experience in blood-letting, but thought it was indicated in conditions of high arterial tension, lividity and engorgement of the right ventricle, such as is often found in pneumonia and some conditions of the heart. In using it in cerebral cases we should be very careful because if the case were one of thrombosis, blood-letting would be contra-indicated. In chlorosis, he would stick to iron.

Dr. McPhedran said he could not agree with Dr. Harrison's statement, that pneumonia was more fatal in the hands of the modern practitioner than formerly, and he had seen statistics which proved this. The object of blood-letting was to relieve the right ventricle. This could be done in a great many cases effectually by bleeding the patient into his own vessels by using nitro-glycerine. The speaker had proved this by experience.

Dr. R. A. Reeve said that blood-letting, by means of leeches, was very serviceable in certain forms of disease in the eye and ear.

Dr. McKinnon, of Guelph, said that he had seen beneficial results from blood-letting in eclampsia, pleuritis and pneumonia, and strongly recommended it in eclampsia, Dr. Birkett, of Montreal, had seen good results in mitral stenosis in old people from blood-letting by nature's method, epistaxis.

Dr. Barrick related a case of eclampsia where everything else had been tried. Blood-letting afforded immediate relief. He would not advise its use in anæmia.

Dr. Harrison closed the discussion by saying that he had tried nitre-glycerine and was not so satisfied with it as was Dr. McPhedran, he preferred the lancet.

Thursday morning.

The Association, after the opening business, listened to an instructive paper by Dr. Holford Walker on the subject of massage and its application in general practice. He defined massage to be the communication of motion to the tissues of the body "at best accomplished by the hands," the motion controlled by the various movements adopted and the force used. Strange to say, it would help directly opposite conditions—it would fatten the thin and reduce the fat. Unlike drugs, it did not unpleasantly affect the system. Its effects were mechanical, reflex, thermal, and electrical. The doctor explained how the body cells were stimulated, the movement of the blood quickened, the absorbents stimulated by the first; how the nervous system was soothed by the light stroking used in the second; how the muscular exercise induced the thermal effects; and, lastly, how the electrical effects were manifested in effecting cures, in an inexplainable way, of various paralyses of the body. Massage was particularly useful in neurasthenia, rheumatism, rheumatoid arthritis, fractures, sprains, constipation, sciatica, and many other diseases. Even the weakest patients could stand it.

Dr. Hunter endorsed all that Dr. Walker had said. He had tried it with gratifying success in fractures. It had given splendid results in the various neuralgias.

Dr. McKinnon, of Guelph, then followed on the subject, "Acute General Peritonitis, Laparatomy, and Recovery." The subject was a pale girl, and the attack sudden and severe. Morphine gave only partial relief, and, after consultation, operation was decided upon, pulse being 100, temperature 101°, and tympanites great. After incision, it was discovered that on the lower anterior wall of the stomach, about two inches from the left extremity, adhesions were found, which on being separated disclosed an old ulcer. The edges were trimmed and scraped away and the peritoneal cavity washed out with hot water. The distension made it extremely difficult to close up the incision; so much so, that the prepared silk worm gut broke and unprepared silk was used. A drainage tube was left in until the second day; the patient subsequently developed an attack of pneumonia, followed by phlebitis, occurring successively in the left, the right leg, and the left arm. These attacks he considered were septic and due to the suppuration arising from the stitch holes of the unprepared silk. The question, when to operate, is a serious one. In idiopathic and some forms of puerperal peritonitis, the opium treatment was sufficient; but in the perforated variety, unless considerable shock be present, operation was indicated.

"The Failures and Successes of Bromoform, in the Treatment of Whooping-cough," by Dr. Duncan, was the next paper read. He cited cases where it had been used with little or no effect, and some cases where it had had a toxic effect. Being narcotic, it somewhat unfavorably influenced the general condition of younger children. It was found by some who tried them, that bromide of potassium and chloroform did better. The Dr. then gave some reports of its successful use among Toronto and outside men. Some reported that it did not shorten the disease, but cut short the paroxysms. In his own practice he had found, where a small dose was ineffectual, that increased doses gave great relief. It should be carefully prescribed, as there was a case reported where one drachm had been prescribed with four ounces of water, a teaspoonful being the dose. The last dose killed the patient.

Discussion now went on in the medical section.

Dr. Stalker, of Ridgetown, said that he had had an epidemic of pertussis in his practice, and that he had tried bromoform, but he found quinine to be better. His treatment was quinine and fresh air.

Dr. Duncan closed the discussion by saying that he would not use bromoform to the exclusion of all other drugs. He would not give it more than three times a day, and once during the night.

The nature of fever and its phenomena and treatment was the subject dealt with by Dr. Holmes, of Chatham. The processes which govern the maintenance of the normal temperature, he said, were but imperfectly understood, and that heat loss was not always uniform, neither was heat production; and in order that a uniform temperature might be kept, the mechanism governing it must be in intimate relation with heat production and heat loss. Heat production was the result of retrograde tissue change. Four-fifths of the body heat was generated in the muscles. The increased respiratory and cardiac action he explained to be dependent on the increased temperature of the blood. There might be rise of temperature without fever, and also fever without rise of temperature. Dr. Holmes wondered why the profession were hunting around for new remedies when the cold bath was at thoir disposal. By using it in one hundred cases of typhoid fever his death-rate was only two.

In discussing this paper Dr. McPhedran said that the cold baths were a means, but not a specific in fever. This he said was excellent treatment in the summer diarrhœa of children. The baths ameliorated the symptoms in typhoid but did not eliminate the poison.

Dr. Hunter fully agreed with Dr. Holmes and Dr. McPhedran.

Dr. Bromley said that he had used jars filled

with cold water, placed about the patient, but did not use the bath. In typhoid fever he used the cold bottles and antiseptics.

Dr. Rice asked Dr. Holmes if he would bath in a case of summer diarrhœa, with a cold surface and an internal temperature of 103 or 104.

Dr. Holmes closed the discussion by saying that the cold bath shortened the duration of the disease and prevented many nervous symptoms arising. As to Dr. Rice's question, he stated that he had always got excellent results from the cold bath in all cases of summer diarrhœa; he also used massage of the extremities. It had always stopped the convulsions, in his experience, also.

Dr. McPhedran then presented a case of abdominal aneurism to the Association. After giving the patient's history and showing the members the area of the tumor and of the pulsations, he proceeded to describe the treatment. The patient had come to the General Hospital a year ago last March, and had been kept in bed until October. The treatment was that adopted by Balfour, of Edinboro': Iodide of potash and nitro-glycerine. The nitro-glycerine was increased until the pulse became very small and soft. He began with 1-100th of a grain, and increased it to 1-50th. The diet was light and nutritious, and as little liquid was given as possible. The tumor gradually lessened in size until August, but from August until October there was little change, when he was allowed to go home, with the injunction that he was to do no hard work. However, he worked hard all winter. Now the tumor was somewhat larger than it was. However, the patient was very materially relieved, if not absolutely cured.

Following this was a paper by Dr. Adams, of Toronto, on "The Prevention of Tuberculosis in Ontario." In opening his paper the speaker dwelt on the predisposing causes of the disease, hereditary and unsanitary surroundings being the principal. To lessen this scourge, Dr. Adams recommended: the reporting of all cases to the public health department, the inspection of milk and meat by qualified men, the death of all affected animals, receptacles for sputa in public places, such as railway waiting rooms, thorough disinfection of houses after the death of patients, the complete isolation of first cases in prisons, etc., and the erection of special hospitals for patients suffering from this disease.

Dr. Burns, Toronto, now read a paper on "Polymastia." The case was that of a woman who, in her third confinement, complained of swelling in both arm pits. She had noticed it before her second confinement also, but not after the first. After the second she noticed a constant oozing in the left axilla, which was much aggravated after the third. On examination, a supernumary mammary gland, quite distinct from the gland proper, and which had a rudimentary nipple about the size of a split pea, and from which fluid like milk exhuded, was found. This fluid, examined under a microscope, showed the presence of colostrum corpuscles. In the right axilla, in a corresponding position, another one was found. The doctor thought if secretion were encouraged lactation would go on as well and as long from them as from the mammæ proper.

Dr. Primrose said that he had examined the the patient, and had found the supernumerary glands quite distinct. He had also examined the secretion from them under the microscope, and had found the colostrum corpuscles. The mammary gland, he said, was of the same origin as the sebaceous gland.

Dr. Howitt, of Guelph, next addressed the Association on appendicitis. He stated that the authorities differed greatly as to the treatment of the disease. The preliminary abscess was usually intra-peritoneal. The appendix generally had a short nesentery. It varied greatly in size and position. This disease was commonest in the young and in males, and was often not manifest during life. The case, he opined was ulceration of the mucous coat caused by faecal concretions or foreign bodies. After giving the various points in the diagnosis, the Doctor spoke of treatment, rest in bed, opium, easily assimilated food were recommended. After the pain had subsided if twenty-four hours had elapsed, an enema should be given. He would not use calomel. If the symptoms became aggravated and the temperature fluctuated operation would be necessary. As a rule this should be done on the third or fourth day if it is certain pus is present. The Doctor described the method of operation in the different forms. He had operated twenty-four times with good success. He then outlined the history of eight cases, where the seat of trouble was not in the right illiac fossa.

Dr. Temple then said that he had only the highest words of commendation for Dr. Howitt's paper. He thought that the diagnosis was at times very difficult. He agreed that it was also very difficult to say in some cases whether one should operate. If the abscess were allowed to rupture into the peritoneum, it was a most serious matter.

Dr. McFarlane agreed with Dr. Temple in the difficulties he had referred to.

Dr. Howitt then closed the discussion by indicating some of the symptoms which would lead him to operate: they were, the increase in the size of the tumor after the third day, accompanied with pain which opiates failed to control, and the appearance of a septic temperature chart.

Dr. A. B. Osborne, of Hamilton, followed by reading a paper on gonorrhœal ephthalmia, including ophthalmia neonatorum. He described the peculiar manner in which the gennococcus attacked the

conjunctiva, how its virulence depended upon the amount of invading poison, how the conjunctival secretion was inimical to the poison, and how the quickness with which the eye could close, making it difficult for the finger to touch the conjunctiva, was the reason it often escaped infection. He gave an elaborate description of the various symptoms, both of the earlier and later stages, and also of the sequelæ and complications. He advocated general, as well as local treatment. At first he would treat with antiseptic lotions with cold, and later by astringents, if called for. If the cornea became infiltrated centrally he would advise atropine: if circum-corneal eserine would do good. Opium should be given if the pain called for it. Antiseptic midwifery was doing much for the prevention of ophthalmia neonatorum. Its treatment was similar to that of the other. Prevention in both was better than cure. Doctors should advise all patients to be exceedingly careful as to cleanliness. The pregnant woman, if she has any discharge should be treated before delivery. This was the most fruitful cause of blindness. In the institution for the blind in Brantford, sixteen of all cases of blindness were traceable to ophthalmia neonatorum.

The next paper handed in was written by Dr. Gross of Fergus. It was a case of a young woman, her first confinement, under Dr. Chisholm, of Wingham. She had been in labor two days and two nights, when Dr. Groves arrived he found her much exhausted. A solid bony tumor filled the pelvis the anter-posterior diameter of which was less than an inch. An operation was decided upon, although the surroundings were unfavourable. They incised on the right side, paralled to pourpart's ligament, commencing close above the symphbsis pubis and extending six inches, a sound being passed through the urethra into the emptied bladder. The section was continued into the vagina, and the child, a strong healthy girl of average size extracted. The mother died, but the child lived. The doctor said this operation was much safer than Cæsarean section. He concluded by saying that it was never justifiable to deliberately destroy one human life when there was reasonable hope of saving both.

Dr. P. P. Burrows, of Lindsay, then read a paper on "Treatment of Talipes Varus by contin uous extension." It was unnecessary, he said, to enter into an anatomical description of this deformity, as he had entered fully into the question in a case reported in the "Canada Lancet," June 1887. In the case reported he divided the contracted tendans the plantar afscia and muscles. Next morning he applied a plaster Paris splint, with cotton batting padding. After ten days a small portion of the splint below the ankle joint was removed, the foot, over-corrected, and fresh plaster secured it in the new position. In thirty days he removed the splint and found the limb perfectly straight. He then had a laced boot put on, stiffened on its inner side.

Dr. Powell, of Ottawa, asked what age the child should be before the tendons should be cut.

Dr. Burrows said that in the child reported the age was four.

Dr. Bryans asked how long the plaster Paris splint should be left on in a marked case. Dr. Burrows replied that he left it on thirty days.

Dr. Sullivan, of Kingston, asked Dr. Burrows how many cases he had used traction on. He also wanted to know if he would operate before the fourth year. The doctor thought that great deformities could not be overcome before the fourth year by traction, nor could talipes varus be overcome, where there was contracture of the tendons, etc., without section. Dr. Burrows said that a moderate case of talipes, if left untreated, became much worse if left long, as a result of contraction. He thought counter extension rational treatment.

Dr. B. E. McKenzie then stated that different specialists had different modes of treatment. He thought no one line of treatment could be adopted for all cases. He said that in children he was cutting less than formerly, and that he never cut the tendo-acchilles under the one year. Often in talipes time was lost in extension when the knife should be used.

Dr. Temple's paper came next. "A few brief remarks on some of the details which lend success in Abdominal Surgery." One secret, he said, was attention to details, another was experience, another was a good knowledge of the peritoneum and more especially of its delicate epithelial coat. The instruments should be be sterilized, the surgeon's and his assistants and nurses hands should be carefully cleansed; the sponges should be boiled and the abdomen around the place for incision made aseptic. It was not necessary as was done formerly, to completely dry the peritoneal cavity, the sponging was often done too vigorously, causing inflammation of the delicate membrane. Where it was indicated, Dr. Temple would flush out the cavity with plain boiled water, moderately hot. This had not only a cleansing, but a general stimulating effect, as well as being helpful in arresting hæmorrhage. He advised the drainage tube in those cases where there had been adhesion with more or less oozing and to be removed within the next forty-eight hours, depending on the color of the fluid. He had not had a case of hernia follow its use. He was not in favor of giving opiates after the operation. No food should be given for twenty-four hours. To relieve thirst a couple of ounces of water with a little salt in it was useful as an enema. The patient should be kept warm. If tympanites appeared he would give calomel followed by mag. sulph.

Dr. Atherton said that he agreed with Dr. Temple except in one point; he would not use hot water to wash out the abdominal cavity if there was no pus or other deleterious matter present. When he did use water he would not use it very hot, as in one of his cases he feared the peritonitis which followed the operation was due to it.

Dr. Howitt asked Dr. Temple if he would remove all the fluid from the cavity after the operation before he sewed up. In regard to the drainage tube he thought that the walls of it should be thick and the holes small, so as to prevent the soft tissues protruding into the opening.

Dr. Powell, of Ottawa, asked Dr. Temple how he would treat the pedicle, and how he treated the abdominal wound externally.

Dr. Powell, Toronto, asked if salt might be advantageously added to the flushing fluid, and what the temperature of the water should be, whether near the highest or lowest allowable temperature.

Mr. Cameron, gathered, although he had not been present, that the points of discussion referred to to the use of sponges and the drainage tube. The practice of making the "toilet of the peritoneum" had fallen into disuse, and he thought, to some extent, unmerited disrepute. This was, perhaps, on account of the way in which the sponging was done: there was danger that the delicate lining of the peritoneum might be rubbed off. He thought it well to leave it as clean as possible, as any blood clots left would make nidus for germs. If there was much irrigation, his practice was to pass a sponge into Douglas' pouch, and also one into the interior clude sac which he removed just before the complection of the operation. Regarding drainage tubes: he said they might be a source of infection.

Kelly had pointed out that the tube was a source of danger. He advised that it be removed as soon as possible, and in regard to its use, he would reverse, the old maxim "when in doubt use the drainage tube," to "when in doubt do not use the drainage tube." He found that if left in for a period not exceeding 48 hours, it did not militate against the closure of the wound. For the immediate purpose of getting rid of deleterious material, from the operation or for warning one the presence of hæmorrhage, the drainage tube was very serviceable. If there were any holes in the side of the tube, they should be as small as possible. If one feared that the lower end would be plugged by soft tissues, it might be obviated by filling the tube with iodoform gauze, allowing the end of the gauze to extend beyond the tube. It would then also establish capillary drainage.

Dr. Temple closed the discussion by saying that he would not use hot water, but warm water. In the case of a simple cyst he would not use any. He used silk worm gut in stitching up, then he sprinkled on the wound dry iodoform and applied a dry dressing.

In reply to Dr. Powell, of Ottawa, he said that the treatment of the pedicle did not vary much now, that he treated it by simple dropping it back into the cavity after ligation. He ligated by the transfixion method, and did not sear the stump in simple cases. Respecting Dr. N. A. Powell's point, he said he thought salt might be added without the slightest injury. With regard to Dr. Howitt's question, he said he allowed most of the water to run out and squeezed a good part of the rest out by pressure on the sides of the abdomen. If there was a little left he would draw it off through a drainage tube by means of a glass sucker. He advised the use of a small drainage tube. He could not tell the exact temperature, as he merely tested it with his hand.

Dr. Mackenzie followed by reading a paper on the mechanical treatment of tuberculosis of the knee-joint. The Doctor had four patients present in varying stages of the disease wherewith to shew the nature of the splints used. He first described the mechanism of the joint. It was the joint most often affected by this disease. Fortunately, if (the joint) could be put at rest without confining the patient to bed. The two points in the treatment were to allow the patient to walk without putting the foot of the affected limb to the ground, and in cases of flexion with sub-luxation to correct them. The first was accomplished by the use of a Thomas' splint, which the speaker described. The second was accomplished, if the case was not gone far enough for operation, by employing continuous traction from the bottom of the splint. When convalescence had taken place pretty well, the Dr. showed how to modify the splint so that part of the body weight might be transmitted through the affected limb to the ground. The cases, whose histories were given fully in the paper, were very instructive.

The report of the nominating committee showed that Dr. L. McFarlane, of Toronto, had been chosen as the next President. He was duly installed.

After listening to the report of the General Secretary, which was a full and able one, and to the reports of the various committees, and to the general routine closing matters the convention was adjourned.

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MEDICAL AND SURGICAL SCIENCE, CRITICISM AND NEWS.

Original Communications.

FREE INCISION OF ABSCESS OF OSTITIS OF HIP; AND CLOSURE WITHOUT DRAINIGE.

BY H. AUGUSTUS WILSON, M.D.,

Clinical Professor of Orthopedic Surgery in the Jefferson Medical College; Professor of Orthopedic Surgery in the Philadelphia Polyclinic, etc.

I will in this paper refer only to cases in my private practice in preference to my hospital experience, because these cases were in a more favorable condition for operation, and because it was possible to keep them under control in a more satisfactory manner, and I was less likely to lose sight of them. My hospital experience in similar cases is far less satisfactory, and I regret that I cannot at this time give the statistics in addition to those contained in this paper.

I am convinced that the occurrence of an abscess of any considerable size is generally evidence of neglect, and that its growth to a size to raise the question of the advisability of its evacuation is a still further error. The neglect of early recognition of the malady and the enforced postponement of rigid immobilization render necessary the consideration of the question now under discussion.

In view of the well-recognized facts that spontaneous resolution by absorption does take place in favorable cases, and that even after spontaneous rupture of an abscess the resultant sinus sometimes does ultimately close, it might appear to be adding an unwarranted risk to operate at all. But on the other hand, the occurrence of the abscess being often caused by neglect, and the doubt that must exist as to the possibility of obtaining a final favorable result, even with the employment of the desirable forms of mechanical rigidity of the joint, favors the application of remedial measures of an operative nature which are based upon sound surgical principles. The great diversity of opinions, even among orthopedic surgeons, as to the expediency of operative interference in hip abscess is evidence, first, that operative procedures alone never cure in this condition, and, secondly, that the scientific use of mechanical principles alone frequently accomplishes that which can be obtained in no other way. Until the recent introduction of asepsis and antisepsis the evacuation of hip abscess was followed by no better results, and not infrequently by not as good results as those obtained by spontaneous rupture. In those cases that did not succumb by amyloid degeneration or fatal tubercular disease elsewhere, there was almost invariably a sinus of nearly a lifetime's duration. At the present day the successful accomplishment of a cure of hip abscess, by free incision, depends upon the thoroughness with which aseptic precautions are observed. I am convinced that where failure has occurred it has been largely due to incompleteness in antiseptic precautions, and I believe that it would be far better not to open such an abscess when for any reason the most strict asepsis and antisepsis could not be obtained and maintained. I can see no good reason for waiting for an abscess of the hip to reach the point of rupture before resorting to surgical interference, because at that time there is not only a natural increase in the size of the abscess accumulation, but the original site of the osseous origin has had everything to favor an increased destruction. The abscess wall has become thin, and tends to a non-union at that point, leaving the much-to-be-dreaded sinus; the constitution will have become depraved from the presence and attempt at absorption of so great a quantity of deleterious material and it is not at all unlikely that bone excision is so frequently indicated because of the great extent of erosion produced by the delay in evacuation. The proportion of cases of hip disease that have abscesses is variously stated as being from 50 to 75 per cent.

The London Clinical Society's committee in 1880 reported 401 cases of hip disease, of which 69 per cent. developed abscesses in the course of a few years.

Cazin* reports 80 suppurative cases treated in a hospital at Berck. Fifty-five per cent. were cured; 12½ per cent. died; 25 per cent. were not cured; 7½ per cent. were improved. In Alexandra

*Bradford and Lovett: Orthopedic Surgery, p. 294.

Hospital, London, in 260 suppurating cases, 33½ per cent. died; 42 per cent. were cured. Hebern* classifies results obtained in his hands. Of those not operated upon in three years, 19 per cent. recovered, and 15 per cent. died; 66 of the remainder were not well in four years; 26 per cent. had recovered; 17 had died; 57 were not well. In five years 24 per cent. had recovered; 21 died; 55 not well.

Taking all the cases, those operated upon and those not, at the end of five years, 13 per cent. were without operation; 37 cases were resected, with a mortality of 51 per cent.; 11 per cent. had been amputated, with a mortality of 60 per cent., and 29 per cent. had remained not well.

Senn, in his work on "Tuberculosis of the Bones and Joints" (page 448), says: "A suppurating hip-joint in the adult warrants a grave prognosis. Anæmic patients and patients suffering tuberculosis of other organs, or from other serious complicating disease, are bad subjects for operative interference." And again (page 449): "The more conservative operations on the hip-joint, in the operative treatment of tubercular affection, that are now gradually displacing typical resections, will yield more satisfactory functional results, while the thoroughness with which osseous foci, the disease capsule, and infected para-articular tissue are now being removed, will be less frequently followed by local recidivation."

Lovett and Goldthwait† say that in every case of abscess of the hip treated in the Children's Hospital of Boston, from 1883 to 1887, that had been subjected to aspiration, whether followed by injection of iodoform or not, subsequent free incision became necessary. In the same hospital from 1884 to 1888 inclusive, there were 370 cases of hip disease, of which number 70 were suppurating.

Dr. R. H. Sayre‡ says: "It seems to me that the cases reported as dying of amyloid disease and general tuberculosis are an additional argument in favor of more thorough removal of diseased tissue before the general system has become exhausted beyond hope of recovery."

The procedures that I have found to give the most satisfactory results are those by free incision, extending the entire length of the abscess, evacuation of the contents, and sealing of the wound. The day prior to the operation the field is as scrupulously prepared as is customary in surgical procedures. The incision is made at first only large enough to permit the contained pus to slowly escape; as soon as it has ceased to flow, the incision is increased to the full extent of the cavity. Peroxide of hydrogen (medicinal) is now thrown in in a small stream until ebullition almost ceases, and the accumulation of detritus is then thoroughly washed out by means of a stream of warm 1 to 1000 bichloride of mercury solution, from a fountain syringe. By the use of the Barker-Willard irrigating curette, the entire pyogenic membrane is carefully and thoroughly scraped, and any shreds of fibrous tissue remaining are removed by scissors. It is now possible to trace the site of the original ostitis, and when found, if not too extensive, its removal is frequently easily accomplished with a gouge.

The difficulty experienced in obtaining a sterile, and at the same time an efficient emulsion of iodoform in olive oil, has induced me to dust powdered iodoform over the entire surface after it has been carefully dried with gauze sponges. The edges of the wound are brought in contact and so held by silkworm-gut sutures, and the entire surface is covered with a thick fold of aseptic gauze, the incision having been covered with protective.

Enforced immobilization is secured with a long, padded splint reaching from the axilla to the malleolus, and retained in position with plaster-of-Paris bandages applied to the leg and the trunk, or by some form of portable bed or fixation apparatus. At the expiration of one week to ten days the stitches are usually removed, if primary union has been obtained. The external dressings and fixation apparatus are re-adjusted and maintained for a period of three weeks more. The subsequent procedure is enforced mechanical immobilization of the joint, either in bed or by apparatus, as the individual requirements of the case may indicate.

While the statistics I have to offer cover a comparatively small number of cases, they may be of use when added to others, and I therefore give them. The cases operated upon by me by the method described number 24. There were 16 girls and 8 boys. Eighteen were upon the left side and 6 were upon the right. The abscesses had been

*Bradford & Lovett: Orthopedic Surgery, p. 325.
†Transactions of American Orthopedic Association, vol. ii., p. 83. ‡Op. cit.

observed by the patient, parent, or attending physicians as follows: "For three months in 5 cases; seven months in 3 cases; eight months in 4 cases; ten months in 6 cases; one year in 4 cases; two years in 2 cases.

In 5 cases re-accumulation occurred, and subsequent evacuation was required. In 3 of these there has been no re-accumulation, although several months have elapsed. In 1 case a persistent sinus exists. In 1 case infection took place from a stitch-wound abscess, when catgut sutures were employed. In 14 cases more than one year had elapsed, and in 11 of this number the original cicatrices have remained firm and unbroken; 3 were re-opened for re-accumulation, and the second cicatrices have not yielded six months after the second operations. In 10 cases, less than a year has elapsed since the operation, of which number 9 have remained closed, and in 1 a persistent sinus is now present. In 16 cases the bone origin was not found. In 3 it was found to be of an extensive character, involving the head of the femur and acetabulum. In 3 cases the deposits were found to exist in the femur, and were of small size. In 2 cases the site was found in the rim of the acetabulum and quite small in extent. In addition to the above there were a number of suppurating cases upon which I did not consider operation advisable. Some of them were upon the point of spontaneous rupture, the overlying skin was thin, very tense, and the abscesses of large size. In other cases recourse was had to mechanical fixation without operation. In contrast to the distressing persistent sinuses that have so frequently followed attempts to avoid the radical procedure here described, I have felt that in future I should be inclined to extend the range of cases upon which I would consider the operation advisable.

I have frequently observed spontaneous resolution without rupture of an abscess of considerable size, and have seen many cases where the spontaneous closure of a long-standing sinus has occurred after a prolonged period of time; but these were under the most favorable circumstances, and I can but doubt that they would have obtained a more speedy cure if these abscess-accumulations had not been left so largely to themselves. Upon the other hand, the presence of persistent and often multiple sinuses is of entirely too frequent occurrence, and would tend to favor the employment of measures that, while apparently of a serious nature, certainly offer prospects of the avoidance of sinuses—relief from which can often be obtained only by recourse to operative procedures very similar to that employed in their prevention. The unsatisfactory results obtained in the treatment of hip abscess may be traced to—

a, delayed operation;

b, imperfect measures of operating;

c, squeezing the abscess to evacuate the contents;

d, the employment of the drainage-tube;

e, and most important of all, the failure to employ prolonged and absolute fixation of the hip-joint.

(*a*) In delayed recourse to operative procedures the extensive destruction of bone tissue prevents the closure of an abscess cavity by a constantly renewing accumulation. (*b*) The imperfect operative measures are those which remove but a part of the sac contents or wall, or where the cavity to be closed is too large to permit a thorough cleansing of the parts, or where the cavity about to be closed is filled with some fluid which, in escaping through the incision, tends toward the production of a sinus. (*c*) In squeezing the parts surrounding an abscess to assist in more rapid evacuation, the already inflamed tissues are bruised, and upon this point I can cordially endorse every word that Phelps* said when discussing this same subject in 1889. He deprecates the squeezing out of the pus, and says that "if the abscess is properly opened at first there will be no necessity for doing this." (*d*) With reference to the employment of the drainage-tube, I cannot agree with Dr. DeForest Willard† with reference to the necessity for its use. Dr. Willard advocated gradual withdrawal of the rubber drainage-tube, believing that it assisted in effecting a thorough cure, and that this was of far more importance than obtaining primary skin union. My own experience is that the employment of the drainage-tube is invariably followed by a sinus which but rarely closes spontaneously. R. W. Lovett, in his classic prize essay, entitled "The Etiology, Pathology, and

*Transactions of American Orthopedic Association, Vol. ii., p. 92.

†Ibid., p. 146.

Treatment of Diseases of the Hip-Joint," 1891, p. 120, says: "The experience with regard to the drainage-tube at the Boston Children's Hospital is of interest. Of forty-three cases of abscess of the hip operated on between 1884 and 1888, one is recorded as having healed within six months, and about half of the sinuses healed within periods varying from one to two years, the rest remaining open almost indefinitely. These cases were all thoroughly cleansed after free incision, and were either packed with gauze, or, more commonly, drainage-tubes were inserted and antiseptic dressings employed. The site of the drainage-tube was almost always the site of a sinus, which persisted for a varying period of time." (e) In the failure to employ prolonged and absolute fixation after the evacuation of an abscess there is an entire disregard of the fact that by this means alone abscesses have been arrested in their growth, and that absorption has thereby been induced. If these are facts—and no one can doubt the statements made by Shaffer, Judson, and other orthopedists who deprecate the resort to surgical measures—then the employment of immobilization will materially assist in the recovery after the evacuation of an abscess, and in the prevention of re-accumulation.

PROGNOSIS IN PNEUMONIA IN CHILDREN.*

BY A. M. BAINES, M.D., C.M., L.R.C.P.L., TORONTO.

To make my part of the symposium of great interest I find somewhat difficult, and I fear it will be looked upon, to a great degree, as a statistical comparison.

It is necessary to plunge at once into a few figures to convey a proper idea of the terrible mortality in pneumonia generally. In England, in 1876, Dr. West says there were from pneumonia of all ages 24,492 deaths, of which 12,878 were in children under five years of age. Dr. Lewis Smith gives nearly the same figures.

Why this great mortality in young children? The anatomical peculiarities of the child's and infant's lungs have already been fully discussed, but possibly a short *resumé* may not be out of place and may fully emphasize the points.

*Read before the Ont. Med. Association, June, 1892.

The respiratory epithelium lining the air cells is in the infant in a condition of extreme delicacy. Physiologists point out that there is not an increase in the number of the flat nucleated epithelia lining the alveoli, but that they simply increase in size, thickness and strength of adherence; thereby adding to the power of resistance of inflammation, and are not so easily detached as they are in infancy, when, as in broncho-pneumonia, we find them filling the air cells. A second consideration is that of the manner of the disposition of the blood vessels and their behavior in contradistinction to those in the adult. They are held together very loosely, and being but little restrained can therefore become speedily tortuous and congested and easily press upon the small alveoli.

With small alveoli, thick walls and abundant distribution of vessels, we can see from these anatomical peculiarities that, as Northrup says, "It is easy to understand how by hypostasis, distension of the vessels may be an important factor in displacing the air in feeble subjects with weakened respiratory vigor and partially obstructed bronchi. Proportionately the extent of the bronchi is greater than that of the air spaces," One more point is that regarding the bronchial glands, the readiness with which they take on inflammation and the frequency with which they become tuberculous.

This embryonal condition of the lung may be said to continue with children, advancing certainly toward perfection, until the child arrives at the age of five years, when the lung assumes the condition of the adult lung.

Thus referring very superficially and briefly to these important points we see how they modify our prognosis, and to some extent account for the great mortality in the pneumonias of children.

Recent authorities point out the fact that all cases of pneumonia have a certain amount of broncho pneumonia in connection with the inflammation. Therefore there are but two varieties to consider, — lobar pneumonia and broncho-pneumonia—known by many synonyms, namely, catarrhal pneumonia, lobular pneumonia, capillary bronchitis, inflammation of the lungs, catarrhal fever, and many other terms now obsolete. We will consider first lobar, or croupous, pneumonia. This variety is certainly met with in children but is much less common than broncho-pneumonia. If

a primary attack, it is rarely fatal, and seldom leaves behind it any disagreeable sequelæ. The mass of authority is certain of this fact, and it is probably deemed so fatal by many because they have overlooked the fact that it is generally accompanied by broncho pneumonia, which is indeed always to be dreaded.

Before giving a decided prognosis, the previous general health of a child must be considered, and the hygienic surroundings also; for we all know and have personally seen the almost miraculous change occur in a child taken from the midst of squalor, filth, ill-feeding and no nursing, to the clean, bright wards of the Children's Hospital, and good nursing. Baginsky states that out of sixty cases of croupous pneumonia he had but four deaths, and that nearly half of these little ones were under two years of age. The later authors contradict the statements made by authors of a few years since that the younger the child the more fatal the disease. Baginsky's cases contradict this, and he has been corroborated by many others. It has been also stated that if the disease attack the upper lobes there is much more likelihood of cerebral symptoms and fatal result than if in the lower. Eustace Smith, Emmett, Holt, Gorden Morrill and others say, however, that they have noted no difference in this respect.

The pulse and respirations become rapid in pneumonia but neither of these symptoms must be looked upon as necessarily severe, it not being such an unfavorable symptom as in other diseases. We frequently see the pulse 140-150 and recovery take place—of course when there be no other symptom of intercurrent trouble adding to the flame. Respiration is frequently observed to be between 40 and 50 with no great danger imminent; but should it get over 50, a most thorough examination of the chest should be made to ascertain the amount of lung implicated, which, if it be great, necessarily adds much to the gravity of the prognosis. Rapid breathing may mean more than hepatization, it may mean septic absorption. A temperature of 105 continued for some days is a serious symptom, but should this be for but one day it is not serious—in fact many cases show this high temperature just before crisis. Irregularity of temperature is a bad precursor, pointing at times to septic influence at work. "According to Thomas," says Morrill, "a want of correspondence between range of temperature and that of the pulse is unfavorable; though high temperature with moderate pulse is less so than the opposite condition." Irregularity of respiration as well as pulse is an indication of exhaustion, therefore most unfavorable. Termination by lysis is not more unfavorable than that of crisis, although it is uncommon. Delicate, cachectic children have but little power of resistance to a disease which cripples the function of respiration, and almost all the fatal cases of pneumonia are amongst this class of patients.

Again, when pneumonia complicates such diseases as scarlet fever, whooping-cough, measles, diphtheria, tuberculosis and bronchitis, the prognosis is rendered more doubtful and generally grave. Should pleuritic effusion, be evolved it would form a most unfavorable complication, for then the already embarrassed lung would have a greater load to carry.

Regarding cerebral symptoms, when active delirium or mania be present, they are always most alarming but not necessarily fatal, except when pointing to the presence of meningitis, which is always grave. Meningitis is, fortunately, a rare complication of pneumonia.

BRONCHO OR LOBULAR PNEUMONIA.

As already stated, this variety is much more common and fatal than the foregoing. There can be no doubt but what many cases of death from so-called bronchitis would be found, should an autopsy be made, to have been broncho-pneumonia. In fact, it is doubtful if a fatal case of bronchitis could be verified—that is pure, simple bronchitis without broncho-pneumonia.

The Boston Board of Health published a schedule of deaths from all causes in childhood, from 1879 to 1886, being 1203 deaths, of which 2050, more than one-sixth of the total, were from pneumonia and bronchitis; which showing gives this dread disease a terribly high mortality, so high that it is equal to diphtheria, and second only to cholera infantum. It seems also to be the cause of many cases of phthisis. This, however, is a doubtful starting point, unless there be a favorable tuberculous nidus present. Regarding the time of year—the months of December, January and March seem to have the highest mortality, and August, September and July the lowest as in order named.

When a case of broncho-pneumonia complicates measles, it should always be looked upon as grave, for it seemingly involves a larger amount of lung tissue proper, and the death rate in this class is very high.

The prognosis in any case of broncho-pnuemonia cannot possibly be given at first with any degree of confidence, for it may be that primarily a small amount of lung tissue is involved, and at times it will go on by continuity of tissue so that the child we leave with light symptoms one day, we may find the next day as bad as bad can be. Again, it is not uncommon for some lobules to clear up to a certain extent and the inflammation to go to other parts of the lung. So that the temperature may have uneven and eccentric flights and remissions according to the invasion and remission. As before mentioned, should it follow measles, or pertussis or other diseases accompanied by high temperature, the prognosis is far graver. Morrill gives his mortality precentage in broncho-pneumonia as 48 3-10 under ten years of age. The extent of lung tissue involved makes the case favorable or not so. The greater the amount, the graver the prognosis, the physical signs being much altered according to the amount of lung involved. Take the temperature ; should it keep persistently up to say 105 for any length of time, it is a bad omen. Again, do you find a pulse respiration ratio of 1-1 or even 1-1½, death is probably imminent. A decline of temperature accompanied by pallor and collapse is the gravest symptom and marks a probable rapid ending.

A child whose health is impaired by any former illness or heredity must always be looked upon as an unfavorable subject. The presence of diarrhœa, vomiting, inability to take nourishment or stimulants, delirium, flagging pulse and continued fever, all form symptoms which render prognosis grave. The possibility of atelectasis, emphysema, carnified lung, phthisis and pleuro-pneumonia cannot be discussed in this paper as too much time has already been taken. I will give, therefore, the summing up of Dr. Northrup in his classical paper in The Reference Handbook of Medical Science, which paper I have freely used :

" Broncho-pneumonia in infancy is an exceedingly fatal disease. The gravity of the prognosis varies, however, in the following particulars :—

It is most grave after whooping-cough in infants, and the younger the child the more fatal the disease. Next in gravity is the pneumonia after measles, in which Ziemssen gives fifty per cent. of deaths. Close upon this comes the pnuemonia with diphtheria. It is not easy to say which is the cause of death in this combination. Patients recover after having had both ; in case of death diphtheria seems to be an efficient cause. Age is important before other considerations. Ziemssen lost half of his pnuemonia patients under one year of age. Two-fifths of those from one to three, one-fourth of those above three.

Pneumonia which develops quickly tends to a speedier resolution and affords a favorable prognosis.

Previous existence of rachitis, tuberculosis, feeble constitution and surroundings of poverty allow the resolution to become prolonged and the patient to die of exhaustion. The conditions of crowded hospitals may be classed as unfavorable surroundings.

It is believed that fat children have less resistance to broncho-pneumonia, not having so much blood in proportion to their weight as well nourished children having less adipose tissue.

The prognosis is unfavorable where early suffocative symptoms are prominent.

Further unfavorable symptoms are, a sudden fall of temperature, with rapid and feeble pulse, irregularity of pulse, slowing of respiration, Cheyne-Stokes respiration, sudden disappearance of cough and restlessness giving place to stupor and delirium. These mark the last stage of a fatal case."

TURPENTINE POISONING WITH AN UNUSUAL SKIN LESION.*

BY GEO. H. CARVETH, B.A., M.D.

Physician to Toronto Dispensary and Toronto Home for Incurables.

Miss A. B., a young woman of nervous temperament, as a result of over study and overwork, had become somewhat run down in health, shown by attacks of atonic dyspepsia, constipation, etc. In the early part of January, 1893, she determined to take a dose of castor oil to relieve the constipation. In mistake about one half ounce of old

*Read before the Toronto Medical Society, May 18th, 1893.

spirits of turpentine was given to her mixed with an ounce of whiskey. The mistake was noticed only after the turpentine had been swallowed, but nothing was then done except to take a dose of castor oil. The turpentine was given at 11 o'clock in the evening. A short time after the patient fell asleep and awoke at 4 a.m. complaining of sickness at the stomach. She vomited soon afterwards and was then restless till about 8 a.m., when a convulsion came on followed by a state of unconsciousness. I saw her a few minutes after the onset of the convulsion, and found the following condition present. Pulse weak, feeble and rapid, face and lips pale, patient restless, delirious at times, talking incoherently, but could be partly roused.

Urine had been passed in quite a quantity since last evening, no irritation of the urinary organs at any time.

Whiskey, sweet spirits of nitre, milk, and sweet oil were given, and warmth applied to the body; vomiting was induced by irritating the fauces. The vomited matters had a strong ordor of turpentine, ten hours after the turpentine had been taken. The bowels were moved by magnesium sulphate and injections. After vomiting severely a number of times she regained consciousness, and immediately complained of a burning pain in the right leg, saying that erysipelas was coming on, as she could feel the leg hot and painful. On examination the back part of the leg and thigh was found to be red, swollen and covered for a space of five inches by thirteen by a bulla or blister exactly resembling a burn. On pricking the blister the contents were watery with a strong odor of turpentine, and in quantity about ten ounces.

The position of this blister was behind the knee, and reaching from one inch above the fold of the ham to eleven or twelve inches down upon the calf of the leg, in width from three to five and one half inches. At 11 o'clock in the morning the temperature of the patient was 100, pulse 100.

By evening of this day temperature and pulse were normal.

Next day the skin beneath this blister looked dark in color, and on the 3rd day it became quite black, and it was evident that death of the skin had taken place.

About the 6th day the line of demarcation appeared between this dead skin and the surrounding healthy parts, but the sloughs were not completely separated till the 21st day, leaving a cavity four inches by twelve, and in depth, down to the muscles, the skin and sub-cutaneous tissue dying and coming away.

On the 27th day the cavity was filled to the level of the surrounding skin, and skin grafting was done by means of small sized pieces of skin laid on the now healthy looking granulations. The grafts took well, and the ulcer was healing rapidly, when the time for the ordinary monthly sickness approached. At once the ulcer began to look unhealthly, and a few granulations in the centre of the sore died. On the 36th day this small dark spot appeared, and on the 43rd day *all* the granulations had died and come away, carrying all the new skin grafts except two, which had been near enough to the edge to receive nourishment from this source.

On the 47th day new granulations began to form all over the floor of the ulcer, and the edges were growing in rapidly. On the 48th day the accompanying photograph was taken.

On the 50th day the ulcer was healing in all parts and looking well, new skin grafts taking rapidly. About this time the general health began to improve, the patient being able to be driven out, with the limb elevated.

On the 70th day the ulcer measured one inch by three inches, and was looking well. As the time for the next monthly sickness came near, healing stopped, and the ulcer remained stationery for a week, but no granulations of any account died, and after this time the healing was rapid. At the time of the next monthly sickness, healing had almost taken place; a spot ¼ inch in diameter only being left, and no special effect was seen in the sore except that the scar looked dark and congested for two or three days. On the 106th day the ulcer was all healed, and the patient able to go about.

Selected Articles.

ON LUPUS.

(Continued from July No.)

Arsenic is the next remedy, and is, according to my judgment, best given at the beginning of the course in the shape of the solutio solvens mineralis, a far superior preparation to Fowler's sickly-tasting, irritating solution; the dose four or five minims, gradually increased to six, eight, or ten times as much. Perhaps a mixture of dilute nitro-hydrochloric acid and some mild, bitter infusion, like that of snake-root, is as good a vehicle as we have. The preparation should be continued so long as it seems to be doing good, and when such amendment as it is thought to be affecting comes to a standstill, then the arsenic is to be given in the form of a pill, at first in small quantities, such as the fiftieth of a grain three times a day, gradually increased.

This part of the treatment, if not so indispensable as was taught by Mr. Hunt, is at any rate of great importance; it multiplies the chances of doing good, and therefore should always be included in the programme. Mr. Hunt effected some wonderful cures with arsenic alone, imposing no restrictions as to diet, and having a perfect horror of all strong local applications. Among other instances he showed at the London Medical Society a bad case of lupus of the face cured in this way. Some of those present suggested that it was only an instance of arrest of the disease, which would be sure to return, and then Mr. Hunt was merciless enough to show the patient at the Society, a year later, still cured, no relapse having occurred.

I never could understand how it was that Mr. Hunt managed so well, as I certainly was not so successful, though I tried four different preparations of arsenic most perseveringly, and as I thought carefully enough, I constantly found that the patients could not continue to take the medicine for anything like the time necessary to effect a cure. The eyes became red, tender, and weeping, the tongue coated, the appetite impaired or lost; diarrhœa, nausea, and vomiting set in even when a strong stomachic-like essence of ginger or peppered brandy was given after each dose. Under such circumstances it is of no use to persevere in the administration of the medicine, the question being, what is the best *temporary* substitute, for it is always desirable to return to the solution. I have myself for long turned to the phosphoric acid, and have found nothing equal to it in its power of setting right a disordered stomach and coated tongue. I have usually given from fifteen to thirty drops in some mild bitter, like that of Seville orange or calumbia, three times a day, continuing this till the symptoms have quite passed away, for it would serve no useful purpose to revert to the arsenic before the system has been restored to its normal state.

At one time I used iodide of potassium as a substitute for arsenic. Having seen reports of cases in some of the medical journals, showing that lupus had been cured with large doses of this salt, I gave it a good trial, beginning with moderate amounts and continuing these as high as the stomach would bear; but in no single instance did I notice the slightest good result in lupus of the face, head, or neck. Some of the patients were speedily made so ill that they could not continue the iodide, and I was obliged to admit that, if others could cure lupus of these parts with it, the task was beyond my powers. This admission, however, I have had to make with regard to so many remedies, that I have grown case-hardened. In lupus of the limbs, especially when seated on the lower parts of the legs, I have sometimes found the iodide very useful. Sooner or later the necessity for any measure of the kind passes away, and then the arsenic should at once be resumed, and sedulously continued, unless some further disturbance should again require the suspension of it, as may easily happen. I have had to interrupt the use of it four or five times before proper toleration was established.

The nature of the local means employed must vary according to the extent of the ulcerated surface and the avocations of the patient, for in many cases it is most imperative, and particularly when the disease is seated on the face, not to add to existing disfigurement, and some of our best means do add to it; consequently they must be reserved for patients in the wards, or for young persons who are not compelled to go out to work. Carbolic acid, 95 p. c., is an excellent application, inasmuch as the stain caused by it speedily passes off, while any slight pain it may occasion is still more speedily relieved by the free application of hot water. The patient should be supplied with the acid and taught how to use it, attacking daily

as much of the lupoid surface as can be done without much pain being caused. At night some mild ointment, like spermaceti or zinc thinned down with liquor plumbi and sweet almond oil, may be applied, the part being covered with Irish linen to prevent the ointment from being rubbed off and the sheets from being greased. When ointments are objected to, the part can be bathed with hot undiluted liquor plumbi. As far as practical all discharge should be removed before applying the acid, and sometimes nothing, not even the most sedulous bathing, effects this so thoroughly as a hot turnip poultice, which offers a convenient medium for keeping heat and moisture a long time in contact with the part without much trouble to the patient. Besides, it is possible that the turnip possesses some slight degree of healing power, because patients frequently remark that the part feels much soothed by the use of the poultice, and the disagreeable smell often noticed in children suffering from clipping ringworm or eczema of the head is at once removed by this remedy, while in them the irritation of the scalp is often visibly removed. The poulticing is repeated every day until the crusts and discharge are completely got rid of.

But when the hands of the medical attendant are not tied, the permanganate of potass should be turned to as offering greater advantages. The solution I employ is one of a drachm to the ounce, and the diseased surface is mopped with this daily till a dark, glossy, hard, adherent film has formed, when it may be discontinued until the lupoid surface is again laid bare by the peeling of the scale. The operation of this remedy is often excellent, especially in the erythematous variety. Any tendency in old papules to rise and enlarge suddenly should at once be checked by rubbing with the solid nitrate of silver, the surface being merely damped; when it proves too painful, iodized glycerine may be substituted. Sometimes, when all appears to be doing well, a small painful sore will form quite suddenly in one of the nostrils, or a few papillæ will all at once break down, and an ulcer take their place with such rapidity as to remind one of sloughing. In such emergencies I think pure chian turpentine is by far the best dressing, the discharge being carefully removed and the powder well dusted on the place. Treated in this way I have seen not only such a lesion close up, but the cicatricial tissue which formed over it take on a much healthier look than other healed parts The application of calamine lotion to protect the surface from the air is often a source of comfort which patients appreciate highly; it offers also the advantage that it hides much of the disfigurement, especially that caused by erythematous lupus. The rabid irritation sometimes seen in sycosiform lupus, particularly when seated below the chin, is often materially alleviated by scalding with hot water, which, indeed, can be beneficially resorted to in all forms of the disease, followed up by the free use of Duhring's sulphide of potass lotion, or solution of carbolic acid, in rectified spirit, three or four grains to the ounce.

Beyond these I know of no local remedies likely to be of service in lupus. I have not tried many, but those which I have tried completely failed in my hands. Nitric acid, acid nitrate of mercury, chloride of zinc, caustic soda, and caustic potass, have been exceptionally recommended. I used them, as I thought, with all needful care, and did little but mischief with them, causing severe pain to far less purpose than might have been attained to by milder means, and not unfrequently with acids injuring the surrounding sound tissue. Nor do I see how it is possible that anything useful in this direction could be extracted from those authors who have touched upon the subject, inasmuch as it would require many years of unremitting labor to select the local application for trial. The reader may think this exaggeration; if so, he has only to observe for himself. Of the caustics alone twenty-three have been recommended, and I need hardly point out that an almost endless series of experiments and researches would be required to determine which was the best of any half-dozen submitted to examination. Indeed, if I had said that half a lifetime would be needed to decide, with scientific precision, such a point with regard to the whole number, I should hardly have overshot the mark.

Besides, there is one very serious objection to the use of caustics which has not met with the attention it deserves, and that is, that if the remedy fail to overpower the disease, it sometimes rapidly and seriously aggravates it. This was particularly the case with a girl admitted into St. John's Hospital suffering under lupus of the nose, cheeks, and back of left jaw. She had, after nearly seven years' attendance at different institutions, been thoroughly cauterized under chloroform in a provincial hospital. Shortly after this the disease began to spread, whereupon the surgeon, apparently thinking he had not done enough, again took her into the hospital and cauterized the places most severely with chloride of zinc. But the operation only had the effect of increasing the extent and rapidity of the destructive process, and when, sometime afterwards, she put herself under my care, there was evidently no attempt at repair. Moreover, the fact that any kind of operation is so dreaded by many timid persons as to make cauterizing prohibitory in their cases should always be kept in view. So far, then, as concerns treatment generally, but there are certain hindrances and complications which demand special attention, and which I now proceed to take up.

Thus close, thundery weather often brings on a relapse almost as unpleasant for the medical attendant as for the patient. Papules, which had

been diminishing in size and fading in colour, suddenly enlarge and become reddened or pink, while a serous or purulent discharge, which had perhaps been absent for weeks or even months, speedily reappears, accompanied by stiffness, burning and itching, particularly in the sycosiform variety. In such emergencies I have seen nothing answer like the tartrate of antimony. The doses of it ordinarily prescribed are of no use here,—supposing, indeed, they are of use anywhere, which I rather doubt. At least thirty to forty minims of the wine should be taken three or four times a day, and I constantly increase the amount to three, four, or even six drachms daily; I never hear of sickness or even nausea being caused by such quantities, and believe the fears about the over free use of antimony to be entirely unfounded. To prevent, however, any feeling of depression being set up, the acetate of ammonia is added, as is, for no particular reason I can offer, unless it be habit, spirit of nitric ether in small quantities. The use of the calomel is kept up, and rather pushed at such times, and followed on each occasion by a full dose of the senna draught next morning. The local treatment should be of the most soothing kind. A hot fomentation or hot turnip poultice, at least once daily, followed by free use of a weak bicarbonate of soda lotion, a drachm to the eight ounces, with half an ounce or more of cherry-laurel water; at night spermaceti ointment is laid rather thickly on the part, being then covered with a single thickness of Irish linen. When an ointment is objected to, as is sometimes the case, the part can be well mopped with hot liquor plumbi.

The diet should at all times be light, but on these occasions meat should be interdicted, the nearest approach to it being a little weak veal or mutton broth; weak tea and dry toast, milk puddings, white fish, vegetables, supply all that is needful. That general refuge, beef-tea, should be utterly avoided, being as heating, irritating, and generally mischievous as anything can well be. No beer should be allowed on any pretence whatever, and if the use of wine be permitted at all, then only some very light kind, such as hock or sauterne. Perhaps it may be as well to say here, that it is much better to adhere to this diet throughout; meat, especially the heavier and more stimulating kinds, strong soups, jellies, meat juices, stout, and brandied wines, being especially injurious, and only permissible when the patient seems to be suffering severely from exhaustion, which, though a very rare, is yet a possible occurrence. In a few extreme cases of this nature I have given rum and milk freely, and a liberal allowance of it certainly seemed to save the life of one woman, sinking to all appearance under the ravages of the disease.

Every now and then, without any manifest cause whatever, the patient complains of utter loss of appetite and distaste for food; of weakness, langour, and weariness; of backache, and a feeling of being equally indisposed for work or rest. When such symptoms prevail, lime often relieves the patient more quickly than any tonic I have seen tried, and perhaps of all the preparations of it the lacto-phosphate—first recommended, I believe, by M. Dusart—is the best, two or three teaspoonfuls five minutes before breakfast and dinner having often an excellent effect. The phosphate is not prescribed because lime is considered useful in strumous affections, but because under the influence of it the patient recovers appetite and strength, and the depressing symptoms just mentioned pass away. I therefore presume that it acts here as a kind of tonic, just as in other phases of the disease the saline and mercury do, patients getting fat and strong under the use of them.

I have seen no reason to believe that any mineral water or bath is of the slightest use in this disease. It is well known that the power of relieving, if not of curing, lupus has been claimed for some of them, particularly the waters of Louèche, which, in addition, render the same invaluable service to seventeen other diseases of the skin, as also to "secondar syphilis" and "inveterated states such as scrofula;" it is also well known that only too many medical men fall in with the morbid fancies of their patients, and sanction their going to places celebrated for the curative qualities of their waters, the accounts of which are often an insult to common sense. Supposing them to possess only a moderate share of the qualities claimed for them, there ought to be no dearth of cures to trumpet forth to the world, yet I have vainly searched far and wide for one authentic case. The vapour bath often affords these patients much relief, apparently because it promotes improvement of the health and a more comfortable state of the skin.

There are three varieties of weather which seem never to agree with lupus patients—raw, cold east winds; east winds in summer, accompanied by much light; and close, thundery weather. The two first can, of course, be avoided by patients in the wards and those who can remain at home; no precautions avail against the last, and there is sometimes no alternative but to expect a relapse, and deal with it as promptly as may be. Those whose work compels them to be a great deal out of doors should protect the part as well as they can from winds and sun; but they have a hard and sometimes an impossible task before them, for exposure to such agencies is often inseparable from the work by which they live.

It has several times been noticed that an attack of erysipelas has materially influenced lupus for the better, setting up a healthy reaction when

nothing else has availed, just as it does when it fastens on a sluggish ulcer. I have never seen this myself, and, indeed, we have never had any erysipelas since the hospital was opened; but a girl, suffering from intractable lupus, which had extensively ulcerated the lips and cheek at the left side of the face, was sent for change of air to the convalescent home, and while there was attacked with erysipelas. Some weeks after this I had an opportunity of examining her, and found that a great improvement had certainly taken place; the ulceration on the oral surface of the lips was nearly healed, and a great deal of the adjacent skin was beginning to show the bleached, scarred surface seen after lupus has been cured. Looking to such facts, the question naturally arises as to whether it would be legitimate practice to place a lupus patient in a ward where erysipelas had broken out, and thus invite an attack of this disease; for my part, if suffering from such a loathsome, disfiguring complaint as lupus, I should certainly ask that this might be done for me. Anyhow, the suggestion, if acted upon, would open up a wide field for experiment, and in due time a vivid description might appear of the struggle for mastery between the bacillus of lupus and the micro-organisms of erysipelas—a conflict even more desperate than that of the microbe and phagocyte, of which we had such interesting narratives, peculiarly redolent of imagination, coolly avowed, indeed, to have been engendered by it, and lamentably wanting in evidence.

It is now so much the fashion in speaking of lupus, and, indeed, of many other maladies, simply to bring forward a case in which some new remedy is effecting a cure or materially relieving the symptoms, and there to leave the subject, that I feel doubtful whether the reader will care to go into the question of what are the chances of cure under the system recommended. The possibility of comparing these with the success affected by other methods is negatived by the scantiness of authentic records on this head—at least I have found little in the shape of an endeavor to grapple with the problem. Lugol's cases were too few to admit of any inference being drawn from them. Dr. Piffard's experience affords us some most valuable information. In 1887 he published an account of twenty-five cases, sixteen of which were successes. Out of eight of these, treated by excision only, six were successful, two failures; while of five treated by excision or scraping, both followed by the actual cautery—the method which he prefers—all were successful. Again, in 1879, he communicated the particulars of nine more cases. One, treated by excision only, was a cure; of the remaining eight, six were successful, one a case of improvement, one was a failure. Quite recently, Mr. Harrison of Clifton, in a paper read before the British Medical Association, gave the particulars of ten cases treated locally with hyposulphite of soda solution, forty grains to the ounce, followed by dilute muriatic acid, five minims to the ounce, with the object of setting free "nascent sulphur and sulphurous acid deep down in the skin structures." Of these ten, one seems to have been absolutely cured, one nearly so.

Such are the few facts which I have been able to glean. On the information conveyed by text-books on diseases of the skin I do not propose to touch. It is generally restricted to the recommendation of the stereotyped remedies, from which we cannot always gather whether any of them, or any combination of them, has ever been successful; what the relation is of cures to failures in the hands of the various authors; to what particular forms and stages of the disease the different remedies are applicable; and, lastly, whether, when all the steps required by an author as necessary for success have been taken, we can rely on curing any individual case of lupus by the most persevering use of them. I presume a certai value attaches to this mode of writing, because the system is so persistently maintained, but I have not myself been able to discover it. As to my own success or insuccess I have no statistics to offer, having so often found it impossible to trace the cases to the end. I can, therefore, only say that the treatment recommended has answered infinitely better in my hands than tonics and caustics ever did, and that by means of it the majority of those patients, who give treatment a fair trial, are either relieved or cured, equally whether suffering from the affection on the head, face, or limbs; lupus of the hand presenting, perhaps, the greatest difficulties of all, and twice in my experience defying treatment so long that the patients left off attending—one only partially, the other scarcely at all relieved. Multiple lupus, too, affecting the limbs, hands, and feet, I have sometimes found refractory to it in the case of out-patients, and only to be satisfactorily treated in the wards. I may here add one thing which has surprised me very much, and that is the slight amount of deformity often left after a lupoid patch, treated in this way, had healed up, the cicatrix becoming peculiarly vascular in some cases.

But only too often treatment never has a fair trial; there are always plenty of people who never have observed, and never mean to observe, the measures necessary for cure. Foremost among these are the the incurably perverse patients, who contrive to misunderstand every direction given them, and who, whether they deceive themselves or not, seem always bent on deceiving the medical attendant; affirming that they have sedulously followed up treatment when it is clear that they have done nothing of the kind, and justifying themselves with such pertinacity that I have often thought such people must labor under some affection of

the brain. Next we have the incorrigibly lazy, whom neither the ravages of the disease nor the entreaties of relatives can induce to make one rational effort for the purpose of being freed from such a misery as lupus. One might think that the first encroachments of a disfiguring affection of the skin would impel any person attacked by it, especially when that person was a woman, to seek relief at any sacrifice of time and trouble, to submit to any restraint requisite for cure. But it is not so. A girl with a large patch of lupus on the left jaw and neck, allowed it to go its way for more than two years without doing anything for it, though she was living in the immediate vicinity of a hospital devoted to diseases of the skin, and not a quarter of a mile from a general hospital. One young man, fearfully disfigured and just beginning to mend, left the hospital because he was not allowed to go out as much as he liked in raw, cold weather, which always agravated the disease; and I am frequently obliged to threaten with immediate dismissal patients who seek to excuse their irregular attendance by the most frivolous pretext.

Next, come the helpless, born in poverty or doomed to sink under it, with whom the wolf is always at the door, and life such a hopeless struggle that they have little time and little heart to to attend to anything beyond its daily wants; with whom the question is not to ward off disfigurement, but to keep cold and hunger from the hearth. With these medicine will never be able to deal. The philanthropist may strive to better their lot; the pedant, who affects to believe that education is the panacea for all social ills, may proclaim that by elevating the minds of these outcasts through the medium of his nostrum, he will rouse them to shake off the apathy which stands in the way of cure. It is all vain. When the philanthropist and pedant can infuse reason into a brain pre-occupied with sordid cares, then, indeed, they may persuade such patients to attend to their maladies, but till then they will continue to suffer. But, apart from the helpless, there are numbers of struggling but right-meaning persons who are constantly shifting their quarters because they must go whither their work calls them. Others, too, there are whom daily toil chains fast to the spot all day long, with whom to leave work means to want food later on; some too poor to bear the petty cost of travelling to the hospitals, and others too weakly to support the fatigue of coming frequently to allow of any good being done. The upshot of all this is, that I never feel confident about a lupus patient attending regularly till experience has shown that this is likely to be the case.

A distinguished physician, attached to one of the largest London hospitals, not very long ago asked, in the course of a lecture, whether any man could say that he "ever got lupus out of the system." This is a fair instance of the way in which the subject is so often dealt with. The question seems legitimate enough when levelled at the incomplete accounts so often met with of the real and ultimate effects of treatment; and, duly weighed, might serve as a warning to men to tell us definitely what can be done in the way of cure in lupus and what cannot be done, where the most hopeful must cease to hope, and where our knowledge of its pathology ends. But in itself the question is not legitimate; it would never have been put in such terms had our knowledge of the disease and its therapeutics been reduced to precise form and established on a lasting base. I doubt if the lecturer himself could have described with exactness what he meant by getting lupus out of the system, or under what form he supposed it to exist while in the system. The issue raised, however, even in this crude shape; is of great importance to the subject, for it reflects the widespread belief in the incurability of lupus which I have so often heard expressed; as it must mean either that the disease cannot be cured even in appearance—a belief for which there is, as regards many cases at least, no justification—or that if apparently cured, the unhealthy disposition to it is never overcome, and the disease infallibly returns; to which the rejoinder must be, that time is needed to decide whether such cures as those mentioned in the foregoing pages are lasting or not, and that, even if a relapse has to be counted on, still immunity from suffering for years, or even for months, is a priceless boon to those labouring under lupus.—J. L. Milton, in *Ed. Med. Jour.*

ELECTRICITY IN HERNIA.

One would suppose that there would be very little "new under the sun" in reference to the management of hernia. I should hesitate to add to the volumes written on that subject during the past half dozen years, were it not for the fact that I believe I have something both new and important to offer. It is to the management of recent strangulated and old irreducible herniæ, that I desire to direct attention. I shall confine myself strictly and briefly to my own method of procedure, one which has given me considerable satisfaction, and which in strangulated cases has saved me much trouble, and the patient all risk of injury from taxis or operation. Many a case of strangulated hernia has been sacrificed, either because of the inability or the disinclination of the physician in attendance to operate, or because no competent help was within reach. This, in my opinion, need not be, since the "operation" which I propose is simple and open to all. All that is necessary for the successful treatment of recent

strangulated hernia, is the possession of a fairly powerful (20-30 cell) battery of low tension. The patient is first placed in the most convenient position for reduction, such as is generally advised in the employment of taxis, and medium size fine sponge electrodes, moistened in warm saline solution, are used. The anode is placed directly over the tumor, the cathode within a couple of inches, when the current is turned on, gradually increasing its strength until as much as can be borne is passing. To measure the current is not necessary, although advisable. This should be passed steadily for from two to five minutes, or as long as the patient (in the absence of an anæsthetic) can bear it. On the removal of the electrodes, very gentle attempts at reduction should be made. If these are not almost immediately successful, re-apply the sponges, and allow the current to pass as before. This should be repeated until reduction is easily effected. Taxis should be the most gentle; no prolonged or rough handling is necessary. The following cases of mine will give an idea of the obtaining conditions and the results secured. I will state right here that in every case taxis was tried, both by myself and others, and proved totally ineffective. The cases would have been given over to the surgeon's knife.

Mrs. A. B——, aged fifty-two, umbilical entero-epiplocele, size of a hen's egg, and existing for ten years, came to my office December 10th, 1888, suffering from strangulation. Constriction, moderately tight; tumor, bluish; twenty-four hours' duration. Repeated attempts at reduction by taxis, failed. Anode, over tumor; cathode, two inches to the left of umbilicus, when three applications were made, lasting in all about fifteen minutes, and on removal of electrodes for the third time, the hernia was reduced almost by a touch.

R. H. W——, aged thirty-five, railroad official, complete oblique inguinal enterocele, six months' duration, came to me the evening of April 5, 1892. The constriction was very tight; duration of strangulation, five or six hours; attempts at reduction by myself and others failed, the general opinion being that there was nothing left but to operate. Galvanism applied as described during five or six minutes, with three or four slight intermissions, was followed by reduction with very little effort.

J. Z——, aged twenty-seven, car carpenter, large scrotal enterocele of ten or more years' duration. Strangulated for about four hours; resisted all efforts at reduction by taxis, position, etc. In this case it was found necessary to continue the current, with numerous intermissions and constantly increasing strength, for fully half an hour. At each intermission gentle attempts at reduction were made, but half an hour elapsed before any apparent impression was made. Reduction was finally accomplished easily.

One more case, and I am done with this subject, George L——, two and a half years of ago, neglected scrotal enterocele of two years' duration, was brought to my office, May 15, 1892, with strangulated hernia. Duration of strangulation about ten hours; constriction, very snug; tumor very tense. After etherization, efforts were made by myself and others to effect reduction. Our efforts proved unavailing. One physician, Dr. Ewing, remarked that he had assisted at an operation a few days before, in a case identical, and expressed himself to the effect that an operation would be absolutely necessary. Anæsthesia was most profound; an extremely powerful current was run for (with intermissions) twelve to fifteen minutes, reduction than being fairly easy.

When the patients is very sensitive, or in the case of children, an anæsthetic is necessary.

My cases now number upward of twenty, and in none have I failed to reduce the hernia within from five to thirty minutes. Of course, it is understood that complicated cases may be met in which this treatment would not be successful, but, fortunately, they are very rare and need not be taken into account, as in the event of failure the operation may be done, no harm having resulted from treatment, and no material delay occasioned,

Irreducible Hernia.—In the treatment of old irreducible herniæ, the usual conditions to be overcome are from the formation of adhesions, and, in entero-epiploceles, and epiploceles, thickening and induration of the omentum. There are other rare causes for this irreducibility, as in a case upon which I recently operated, a congenital complete oblique inguinal. Patient, thirty-five years of age; tumor composed entirely of omentum, which was spread out fan-shape, base measuring six inches; apex at external ring, one inch, which small portion completely filled both rings and canal, plugging them so well that, although the patient had never worn a truss, at no time had the intestines escaped, the rupture causing him no trouble or inconvenience, except through the large size of the scrotum. The irreducibility here was due to the disparity between the part to be returned and the openings through which it should pass, a condition that was unusual, as in most old irreducible herniæ of any size the canal is obliterated, or nearly so, the ring being approximated (the hernia direct) and widely dilated. It is to the ordinary forms of irreducible herniæ that my method is applicable, and in which it has been successful in nearly half a hundred cases. In fact, unsuccessful in only three—one an enormous scrotal entero-epiplocele, scrotum measuring twenty-six inches at the junction with the body, and twenty-eight inches from side to side in line of raphe, irreducible over twenty years. Before reduction had been accomplished a violent effort on the part of the patient caused strangulation. The surgeon who saw him

and who operated, informed me that he found no adhesions, nor any other apparent cause for irreducibility. The other cases were quite similar, both becoming strangulated. An operation was deemed necessary, and as the patients lived at a distance, I did not see them, nor did I operate. The time usually necessary, according to my experience, to effect reduction, is from one week to one month. In one case over two months was occupied; this was an enormous scrotal entero-epiplocele, irreducible for twenty years. As in this case, it is often impossible to reduce the sac—but that is of small account—as a truss can be worn just as well, though the sac remain permanently down. The after-treatment of such cases will be reserved for a future article. The time required to effect reduction depends somewhat upon the nature of the case. Enteroceles yield quite quickly, as a rule; entero-epiploceles and epiploceles require much longer time.

For the successful treatment of irreducible hernia, a very low tension, galvanic battery of considerable power, medium size and small sponge electrodes are required. A milliamperemeter is not absolutely necessary, though for many reasons advisable, the gauge for current strength being what the patient can possibly bear. If scrotal, the current is passed directly through the hernial tumor. When this becomes too painful, anode is used on scrotum, moving it about from place to place; cathode, at junction of scrotum with body. In incompiete inguinal, femoral or umbilical, the anode is placed directly over tumor; cathode, very near by, the object being to get the polar effect as much as possible. The time occupied in a single sitting should not exceed fifteen minutes, interrupting frequently, care being taken to have the current traverse every portion of the tumor. After each treatment, attempts at reduction should be made, the tumor being not too forcibly kneaded and manipulated, in order to assist in breaking up any adhesions that may have been weakened or partially destroyed by the current. The following will illustrate the average run of cases, as I have found them:

Lewis P——, aged fifty-six, undertaker, large scrotal entero epiplocele, irreducible ten years, in size as he expressed it, "as large as the hub of a lumber wagon, nearly as hard and tense." Numerous attempts at reduction had been made by different surgeons. I first saw him in January 16, 1888, when treatment was begun. He was a good soldier, and stood an exceedingly hot current without complaint. January 21, 1888, after the fourth treatment, reduction was accomplished with the greatest ease, the necessary manipulations taking not over a minute or two.

J. W. S.——, aged sixty-five, merchant, complete oblique inguinal enterocele, size of hen's egg, irreducible ten years; has suffered very much, being obliged to wear a hard, slightly convex truss-pad, with considerable pressure over the tumor to prevent strangulation, which had occurred several times when attempting the use of a concave pad, or to go without any. Being a gentleman of wealth, he had consulted many prominent surgeons. No hope of relief was offered except through an operation. He consulted me June 2, 1889. Treatment was at once begun and repeated every other day. On July 1, 1889, reduction was accomplished, and a truss applied, which is worn with comfort.

John W——, aged twenty-six, railroad engineer, scrotal entero-epiplocele, irreducible three years. Tumor, the size of a goose egg. Began treatment March 1, 1891; daily applications. March 16, 1891, reductlon effected. Mr. W—— had consulted several physicians before coming to me, among them an emeritus professor of surgery, the unanimous opinion that an operation was demanded, on account of the liability of strangulation, owing to the nature of his occupation, and to the fact that he was on his engine away from home, out of the reach of aid most of the time, and could wear nothing in the way of protection.

L W. M——, aged thirty-two, bookkeeper, very large scrotal entero-epiplocele, scrotum measuring fourteen inches in circumference, irreducible 20 years. Many attempts at reduction had been made. Consulted me January 10, 1892. Treatment began and repeated every second to third day. In about four weeks the intestine was reduced, the large mass of omentum going slowly. There is a question in this case—if there is not still some omentum down, the scrotal tissues are very much thickened, the sac is surely down and thickened—but I can not satisfactorily determine the presence of omentum. If there is any, it is very little. One reason for feeling that there is no omentum left, is that he has worn a truss with convex pad, continually for several months without discomfort, which would not likely be the case were omentum present and pressed upon by the truss-pad.

John S——, aged fifty-eight, brewer, large scrotal entero-epiplocele, fifteen years' duration, irreducible eight years. Began treatment August 1, 1889; treated every second to third day; reduction accomplished, September 3, 1889, and a truss applied which was worn with comfort till his death, which occurred from Bright's Disease, about one year later. As to the rationale of my treatment, I shall have the pleasure of explaining my theory in a future article. I shall then also have something to say in reference to the treatment for the "radical cure" of ordinary reducible hernia, taking advantage of the cataphoric action of the galvanic current.—Jas. J Marcey, M.D., New York, in *Med. Rec.*

THE OPIUM AND SALINE TREATMENT OF PERITONITIS.

To an article upon this subject by Dr. H. M. Russell, in the *Therapeutic Gazette*, we would make the following suggestions: We agree with the author that each individual case requires treatment adapted to its own peculiarities. The opium treatment is indicated, we think, without exception, as long as the peritonitis is localized. If we give purgatives before a general peritonitis has taken place we run a great risk of converting a local into a general peritonitis by the production of peristalsis. In these cases purgatives can only do harm, while opium, stopping peristalsis, will give the lymphatics a chance to absorb the infectious material, so that it may be made inoccuous by the blood serum. On the other hand, if we have to deal with a general peritonitis, the indication to stop peristalsis is no longer imperative; on the contrary, we now find ourselves in harmony with the science of physiology and pathology if we give purgatives. By doing this we unload the lymphatics and blood-vessels and thereby place them in a condition to absorb larger quantities of the infectious material, bacteria and ptomaines. If it is necessary to give opiates in order to relieve pain we try to use as little of it as possible in order not to interfere with the physiological action upon which we place the most reliance; because it seems, with our present knowledge of pathology, the most rational thing to do.

In addition to the remedies mentioned in the article we have in some cases found very great relief by the application of cold in some form, preferably the rubber water coil. This we think, is more in harmony with scientific facts, than the application of heat, but here too, we must individualize and cannot put down a general rule that we could apply to any case. It is also our opinion that local peritonitis is often mistaken for general peritonitis and that, where we have to deal with the latter, we are always justified in performing laparotomy, look for the cause of the peritonitis and remove it. Idiopathic peritonitis, we think, is simply a name by which we cover up our ignorance. Having formulated our ideas as short and concise as possible we reproduce the author's very able article:

All authors of to-day agree that idiopathic peritonitis is rare. A few contend that it does not exist, but that general peritonitis is always a symptom. In my experience I have not met with a case which could not be traced to some previous lesion. Since peritonitis is usually a symptom of some previous disease, no set treatment will answer for all cases. To give salines to a patient who is suffering from a peritonitis caused by an incarcerated hernia would be as wide of the mark as to benumb a patient with opium who has a peritonitis from impaction of the bowels. It is necessary that a diagnosis of the cause be made before the case can be rationally treated. With that phase of the question I do not propose to deal. The great number of cases of peritonitis presenting themselves to the general practitioner, however, have as their cause some lesion insignificant in itself and entirely unaffected by medicinal treatment, and the disease presents itself simply as a case of peritonitis. The inflammation must be controlled before the cause can be reached. How best to gain that end is the question which confronts us all, and which I approach with becoming humility. When I left the halls of the University of Pennsylvania he who suggested any but the opium treatment was sneered at. Since that time the saline treatment has arisen, and has followers who declare that to give opium is death to the patient, and to omit purgation with salines is equally reprehensible. Both these treatments have able supporters, who give no quarter and desire none. I suffered from a severe attack of peritonitis, and recovered under strict opium treatment. Moreover, as a student, I was thoroughly imbued with the belief that this was the only rational treatment for peritonitis, hence I feel much like a deserter in suggesting any other method of treatment. My first cases of peritonitis were given opium until they were narcotized, were passably comfortable, and generally died. Nevertheless, I could never bring myself to the state of mind in which I could omit opium. Hence, in my later cases, I have constantly used a combination of salines and opium, and with the happiest results.

The following cases, taken at random from my notes, will illustrate what has been by far the most satisfactory method of dealing with the cases of which I speak. They all corresponded to the type of a general peritonitis, the cause of which could not be found at the time, or, if detected, could not be remedied.

Case I.—Mrs. N., aged fifty-two, was attacked with symptoms of dysentery. She had frequent stools, and passed some blood and mucus. These symptoms were controlled by small doses of opium. Suddenly, on the evening of July 19, 1891, the patient was seized with excruciating pain in the ileo cecal region. This was controlled by a hypodermic injection of morphine. The next morning the pain was still severe, and the whole belly was tense and exquisitely tender; the pulse was quick and hard; the woman was suffering much pain. She was ordered one half ounce of Epsom salts dissolved in a half-glass of water, and a tablespoonful of this was given every half hour. A hypodermic injection of morphine was administered to relieve the pain. The general condition

of the patient was bad. There was considerable tenderness over the ileo-cecal region, with resistance, while the whole belly was tense and tender. The patient lay on her back, with her thighs flexed. By the time the last of the half-ounce of saline was administered there had been two profuse watery stools. The belly became less tense and markedly less tender. The treatment after this was morphine hypodermically sufficient to keep the patient quiet, and salines sufficient to cause daily a large watery stool. Gradually the general inflammation decreased. The cause of peritonitis was demonstrated in a palpable, tender tumor in the ileo-cecal region. The woman made a complete recovery.

Case II.—Mrs R., was seen in consultation. Her menses had been missed for two months. Three days before she came under my observation she was seized with severe pain in the abdomen, simulating labor-pains. Shortly the whole belly became tense and very tender. On my visit a tumor was found, involving the right Fallopian tube. This was probably the cause of the trouble. The whole abdomen was distended and exquisitely tender, the patient screaming at the slightest touch. The bowels were constipated. As there was a specific history, and as the woman was pregnant and in fairly good condition, the treatment by hypodermic injections of morphine sufficient to control pain, and salines to cause large watery stools, was advised as the best means of combating the trouble. Laparatomy was decided against because of pregnancy and a specific history. This patient was afterwards seen by Professor B. C. Hirst, and the treatment continued. The woman made an excellent recovery.

Case III.—Harry R., was seized with severe "cramps" while at work in a mill. On examination, a tender swelling was found in the ileo-cecal region. The patient lay with the knees drawn up and the whole belly tense and sensitive. A hypodermic injection of morphine was given and salines ordered. On the first movement of the bowels, which was profuse and watery, there was great relief. The general tenderness speedily disappeared, but there remained in the ileo-cecal region a decided tumor, which was demonstrable for two weeks. The patient has since gone through a similar attack, and is at present suffering from a third. It is probably a case of recurrent appendicitis, complicated, on at least two occasions, by a general peritonitis. A laparotomy will probably be required before definite cure.

These three cases—taken at random from a number of records which I have—well illustrate the set of cases to which I refer. Two were probably appendicitis, the third was certainly Fallopian disease, but in all three the one condition threatening life was the general peritonitis. I would repeat that this method of treatment will no more than any other supplant a rational operative treatment, but it is superior in my hands to the opium treatment alone. I have had no experience with a pure saline treatment, but to my mind the intense pain always demands an opiate. A combination of the two methods secures comfort to the patient from the opiate and depletion of the inflamed peritoneum from the saline. The opium is best administered hypodermically, since thus less of the drug is used. The saline I have always administered in a saturated solution, a half ounce of this being given half-hourly. Strict rest, of course, must be ordered, and a liquid diet prescribed.

These means may be supplemented by leeching when the case is seen early, and by application of a light poultice to the abdomen, or a cloth wrung out of hot water and covered with oiled silk.

In conclusion, I would state that the means best suited in my hands to the treatment of peritonitis are:

1. Diagnosis as to the cause.
2. Removal of the cause where practicable.
3. Hypodermic injections of morphine sufficient to control pain.
4. Administration of a concentrated saline solution until free watery stools are produced.
5. Leeching and poulticing.—*Med. Rev.*

STRONTIUM BROMIDE IN THE TREATMENT OF CHRONIC EPILEPSY.

The constantly increasing number of incurable epileptics, both in asylums and at large, occasions an ever-growing demand for new drugs, from which we may at least hope to effect some improvement, in either their physical condition, or a diminution of the number of seizures.

Among the recent applicants for medical favor in this line has been the bromide of strontium (Paraf-Javal), purporting to be a salt, free from the impurities of the ordinary commercial article which render it unfit for continued use, or even poisonous in moderate doses. This statement as to its non-toxic action we have found to be well founded, no evil result having followed 30 grain doses repeated thrice daily, and no case that has been treated with the salt has shown other than beneficial results. Above all, we have to note continued absence of a bromide acne (even disappearance of the rash, though it was present when the use of the strontium was commenced), a very much lessened somnolent effect, the patients without exception appearing brighter and more cheerful under its use than with the sodium salt, and finally certain excitable cases were less quarrelsome after a seizure, than under the every-

day treatment; points all of very considerable value, both in private and asylum practice.

We have not been able to determine that the actual character of the seizures, when they do occur, is altered to any extent by the strontium salt, though some of the attendants were of the opinion that the convulsions were lighter in character than before the treatment was inaugurated, but it remains an uncertain point, the opinions being too much at variance to be of value.

In the September past, at the commencement of our experiment, we found in the City Insane Asylum thirty-six chronic epileptics, the majority being of many years' standing. At this date the whole thirty-six were treated with what is known as the "house epileptic mixture" which contains gr. xx. of sodium bromide and gr. xv. of potassium iodide to the tablespoonful, and which was given in this dose three times a day. A census of the thirty-six cases was made, and eleven of the worst and most regular epileptics were selected for the new treatment. These were, however, kept under the sodium bromide for four weeks longer, and the number of seizures that occurred daily were noted down by the attendants on charts especially prepared for the purpose. At the end of the fourth week, the treatment was changed to a solution of natrium chloride (gr. x. to ½ oz. water) t. i. d., upon which the eleven were kept for ten days. During this time the number of attacks increased greatly, and elicited the remark from one of the attendants that "they fall around like sheep." One curious point is to be noticed in the sodium chloride treatment, namely, that in the last two days during which it was administered, but one patient (J. P.) had a seizure. However, the very next day they began afresh, and it would therefore seem that the nervous centres had to some extent become temporarily exhausted. It is also to be noted that at the end of the ten days the eleven patients were generally in a decidedly worse mental and physical condition than under the sodium bromide.

On the first of December the selected patients were placed on a solution of strontium bromide (kindly furnished for the purpose by Messrs. Fougera, of New York), and within a few days a decided improvement became manifest in all except two cases (F. B. and M. W.). All were treated in precisely the same way, receiving 21½ grs. of the salt thrice daily. The dose with F. B. was within a day or two increased to 30 grs., when he also followed in the train of the nine. On December 20th, owing to the unfortunate miscarriage of a letter, the treatment had temporarily to be discontinued, and from this date to the end of the month no medicine whatever was administered. During these ten days a gradual rise in the number of convulsions was noted. In the first seven days the rise was exceedingly slow, in the last three days 16 seizures occurred, one patient alone having three.

On January 1st, a new supply of the bromide having been obtained, the treatment was recommenced and continued through to January 31st, 1893, without interruption. In October, under the sodium bromide, the eleven had 81 convulsions, in December there were 55 seizures, in January 65, marking a decided fall and very gradual rise for the entire number. This statement is vitiated to a degree by the non-amenability of Weinecker, Kinzer, and Schreck, and the inclusion of a case of Jacksonian epilepsy (Wasch) in the list. Excluding the cases of Weinecker and Wasch, we have the following statement: In October 76, in December 32 fits, in January 44 fits. With Weinecker the strontium treatment seemed to be of positive disadvantage. With Wasch, who has a gross lesion of the cerebrum, it seems to have had no influence either for good or evil.

With several other epileptics the strontium treatment was tried, but less systematically, partly owing to the patients at times refusing to take it; but in all to whom it was given an improvement has been noticed, both in the diminution of the number of fits, and in their increased mental brightness. One, a most unmanageable case (J. K.), with post-epileptic stupor lasting for a number of days after each attack, has improved very greatly mentally, and the number of seizures has diminished.

It is but fair to state that the *personnel* of the attendants of the Asylum is not all that could be desired, and that absolute reliance is unfortunately not to be placed on all their observations, and it is well to bear this in mind in drawing conclusions of the results of the strontium treatment. In one small ward, however, there is an exception, the attendant being very faithful and observant, and it was precisely in this same ward that the strontium salt gave its best results. In this department were the chronic epileptics, Gray, Beam, White and Chew. In October, under the sodium bromide the total number of seizures of the four numbered 37, in December 7, in January there was a rise to 18, less than one-half that of October.

An explanation may be necessary for the following histories; their indifferent character arises from the fact that up to 28 months ago no systematic histories of the patients in the Asylum were kept, and that, with two exceptions, the epileptics chosen for the experiment were admitted to the institution before that date, and no antecedent histories were obtainable.

Chas. Kinzer, aged 40, w. m. Imbecile. Parents are both dead, of unknown causes. No known heredity or neuroses in the family. Admitted Sept. 14, 1878. Cause of fits unknown. Has attacks of grand mal, averaging three weekly.

Convulsions are limited to the right side of body. The seizures average two minutes in duration, and are followed by stupor for a few minutes. There is no mark of injury to the skull. Patient had been on bromides since date of admission. There is now complete dementia. The effects from the strontium treatment have been nil.

Ed. Wasch, aged 54, w. m. Cigarmaker. No neuroses in family. Cause of epilepsy, a depressed fracture over the posterior left temporal region, caused by a fragment of shell during the civil war. Grand mal, averaging one series of attacks weekly, occurring in quick succession, sometimes as many as ten in a day. Convulsive movements begin in the muscles of the left face, then extend to the arm and leg, finally the whole body becomes convulsed. There is an aura as if a bucket of water had been poured over his head. Bromides off and on since 1863. The effect of the strontium treatment has not been marked.

C. A. Shreck, aged 33, w. m. Watchman. Cause, injury to head when a child. Has had fits since ten years of age. Petit mal and grand mal. Convulsive movements are more marked on left than on right side. Seizures occur day and night. The duration of the convulsion varies from the fraction of a minute to several minutes. Has been on bromides for a long time. Post-epileptic excitement and complete dementia. Benefit from the strontium has been slight.

Wm. Gray, aged 17, b. m. Laborer. No known heredity or neuroses, cause unknown, duration unknown. Patient is an imbecile. The convulsions are general, lasting from one to two minutes, after which he is confused and quarrelsome for several hours. Very considerable improvement under strontium treatment.

F. Beam, aged 45, b. m. Messenger. No ascertainable heredity or neuroses in family. Cause unknown, has had epilepsy since the age of 14 years. There is considerable mental deterioration. General convulsions lasting from one to two minutes, after which he is very excited and dangerous. He has an indistinct aura as if he were in the act of stepping into a carriage, the bottom of which falls through when his foot touches it. This aura apparently comes on in the form of a dream, and has been constant for a year only. Has been very greatly improved by the treatment, the attacks are greatly diminished and he is far less quarrelsome.

Isaiah White, aged 16, b. m., epileptic idiot. No history. Convulsions general and severe. Has command of only a few words. The number of seizures has been considerably diminished.

Chas. Chew, aged 32, b. m. Imbecile. Has been an inmate of the poor-house since a mere boy. No history obtainable. Has an average of two fits weekly. Convulsions general, lasting about two minutes. Is confused for an hour or more. Has been on bromide treatment for many years. The number of convulsions has been considerably lessened by the strontium treatment.

Helen Luft, aged 45, w. f. No occupation. Father is said to have died with paralysis, the mother of cancer. Epilepsy followed measles at the age of six years. Convulsions general. Patient is considerably demented. Patient has improved considerably under the treatment.

Jennie Peterson, aged 32, w. f. No history obtainable. Has both petit and grand mal. Convulsions general. Fits since the age of seven years. Bromides since 1885. Is demented. Has not improved much under the treatment.

M. Weinecker, aged 36, w. f. No history obtainable. Has an average of one fit daily. Convulsions general, and is very quarrelsome afterwards. Is much demented. Treatment without result.

Dora Yocum, aged 40, w. f. No history. Imbecile. This case was probably the worst epileptic in the institution, having one seizure regularly every day and sometimes as many as half a dozen. Convulsions general. After an attack is obstinate and quarrelsome. Former treatment, bromides in all forms for years. Has improved greatly, attacks occur at comparatively rare intervals, and is comparatively bright.

One point is clearly seen in the tabulated statement, namely, that the strontium bromide has claims to considerably greater merit in lessening the number of epileptic seizures than its companion salt the bromide of sodium; but to me the improved mental condition, lessened somnolence and excitability, are of far greater moment than the actual diminution of the fits. The experiment shows that the salt is worthy of an extended use, and that certain cases may be greatly benefited by it.

In conclusion, I have to thank Dr. Edward Garrett, the resident physician, for his kindness in tabulating the reports, and for keeping a general supervision of the experiment while in progress.

NAME.	Oct.	Nov.	Dec.	Jan.
C. K.	5	11	4	7
E. W.	0	7	5	4
C. S.	6	5	4	7
W. G.	7	3	2	4
F. B.	8	10	0	3
J. W.	11	3	3	6
C. C.	11	2	2	5
D. Y.	16	13	3	2
H. L.	8	9	7	4
J. P.	4	6	7	6
M. W.	5	16	18	16
Totals	81	85	55	64

NOTE.—From Oct. 1st to Oct. 28th sodium bromide gr. xx. and potassium iodide gr. xv. three times daily.

From Oct. 28th to Nov. 7th sodium chloride gr. x. three times daily.

From Nov. 7th to Nov. 20th strontium bromide 21½ grs. 3 times daily.

From Nov. 20th to Dec. 1st all medicine was discontinued.

From Dec. 1st, 1892, to Feb. 1st, 1893, strontium bromide grs. xxij. three times daily.—Henry J. Berkley, M.D., in *Johns Hopkins Hosp. Bull.*

THE DRIP-SHEET.

In a recent address before the New York Academy of Medicine (*Medical Record*) Dr. Weir Mitchell gives the following directions for the use of this agent by persons needing the modified rest-cure:

What I dread most at the start, in all cases for rest, is grave insomnia. Whether it be accompanied by a state of mild mental excitement, such as we all know, or is a pure incapacity to go to sleep, or to stay asleep, or whether it be in popular medical belief a congested state, I am apt at once, in bad cases, to use twice a day lithium bromide, at first in 30-grain doses, at noon, at 6 and 9 p.m., given in the malt or not, and soon decrease grain by grain. If I want a positive aid at bedtime, I prefer sulfonal in hot water. But of greater value are some of the hydro-therapeutic devices—and best of these is what is known, or not known, as the "drip-sheet." Just how this is to be given is of the utmost importance. The following memoranda, which I shall not read to you, but shall ask you to read hereafter, must answer to show how careful one must be, in my opinion, as to these details. I give it here in brief, much as I do to the patient not under the immediate care of a nurse. I cannot help adding that several of the most useful of the water processes are neither taught in our schools, nor so accurately in hydro-therapeutic text-books as to be of much value to the general practitioner.

Memoranda for use, at bedtime, of drip-sheet.—Basin of water at 65°F. Lower the temperature day by day by degrees to 55° F., or to still less. Put in the basin a sheet, letting the corners hang out to be taken hold of. The patient stands in one garment in comfortably hot water. Have ready a large, soft towel and iced water. Dip the towel in this, wring it, and put it turbanwise about the head and back of the neck. Take off night-dress. Standing in front of patient—the basin and sheet behind—the maid seizes the wet sheet by two corners and throws it around the patient, who holds it at the neck. A rough, smart, rapid rub from the outside applies the sheet everywhere. This takes but two minutes, or less. Drop the sheet, let the patient lie down on a lounge upon a blanket, wrap her in it, dry thoroughly and roughly with coarse towels placed at hand. Wrap in a dry blanket. Remove ice wrap; dry hair; put on night-dress. Bed, the feet covered with a flannel wrap.

If all this seems to you as you read it too absurdly minute, I shall feel some regret. Yet believe me, it is worth the trouble, and the drip-sheet is a remedy past praise. If it fail, a pack may succeed, but this is more familiar to you. I doubt if the use of the drip-sheet is as well known.—*Maryland Med. Jour.*

PEROXIDE OF HYDROGEN IN THE TREATMENT OF GONORRHŒA.—My recent experience with peroxide of hydrogen in the treatment of gonorrhœa has led me to believe that we have in this agent a most prompt and efficacious remedy. There is no doubt that peroxide of hydrogen thoroughly destroys the gonococci and promptly renders the urethral canal aseptic and free from pathogenic germs.

Acting upon the theory that antiseptics have the effect of maintaining any cavity or canal in a state of asepsis (without being deleterious to healthy tissues), which is the condition most favorable for the cure of suppuration, I have found by the use of this drug that the danger of an extension of the inflammatory process into the posterior urethra is lessened, the course of disease is decidedly shortened, and gonorrhœal complications avoided.

The following plan of treating acute gonorrhœa has proved very gratifying in my experience. I instruct the patient to use as an injection three times a day:

℞.—Hydrogen peroxide, ... 1 oz.
Aquæ dest, ... 6 oz.
Mix.

I present a brief history of two cases treated according to this method:

CASE I.—M. S., a married man, aged forty-five years, came to me in great perturbation of mind, stating that he had recently contracted gonorrhœa from a prostitute. He had all the characteristic symptoms of acute gonorrhœa. I gave him the above preparation, requesting him to use it three times a day, and told him to call again in the course of three days, which he did, when I found him completely cured

CASE II.—The second case was that of a young man (unmarried), twenty-four years of age, who came with a gonorrhœa of six weeks' duration. He had a tried a host of remedies prescribed by druggists for his trouble, but in vain. It had gone from bad to worse, and made him feel in a very despondent frame of mind. An examination

revealed the tissues of the penis to be in a very swollen and painful condition, with a profuse purulent discharge from the meatus, the lips of which were much inflamed and angry looking. He complained of great pain on urination, and was restless at night. I gave him the peroxide of hydrogen as above, directing him how to use it, and requested him to call again in the course of five or six days. When he again presented himself five days later, I found that the inflammatory process was subdued, the pain on urination had disappeared, and the patient expressed himself as feeling in every way comfortable. Ten days after this he reported himself as entirely cured.

It will be understood, of course, that in these cases I have directed the patients to observe the usual rules for diet and internal treatment.—Dr. Sullivan in *Cincinnati Lancet-Clinic.*

A Clinical History.—A contemporary prints the following: Elderly spinster to doctor (who has been asked to call between eleven and a quarter past, at a distance of many miles from his house: "I thought, Dr. Corax, that perhaps I might as well see you, as I fancy I have got a cold, and I think I had better tell you how I caught it. It was last Friday—or was it Thursday? What was the day when it rained so in the afternoon and evening? You don't remember? I think it was Friday, because the *Weekly News* always comes on Friday evening, and I half remember that when I came in the paper was lying on the hall-table. I wanted to post a letter to my sister who lives in Dorsetshire, to tell her how very sorry I was to hear of the loss of so many of her best poultry—a fox had got at them, and made sad havoc in the poultry-yard—but that is neither here nor there—and Sarah being out, I slipped on my cloak and ran across to the post office. But the ground was very wet after all the rain that had fallen that afternoon, and not being able to find my goloshes—" Doctor, breaking in: "Exactly. You got your feet wet—a most common cause of a cold. I shall be able——" Patient: "Please here me out. As I could not find my goloshes, I put on a pair of thick felt boots, which could not have let any water in, so I am sure it did not arise from my getting my feet wet. But just as I got to the post office door a gust of wind blew my bonnet off." Doctor: "A perfectly clear statement. I will now——" Patient: "Will you allow me to explain myself? After all I do not believe that I got the chill in this way. Over and over again I have told Sarah by no means to allow the passage-window to be open on cold or wet nights. Only a few days ago I said to her: 'Sarah, you may be used to it, but I am not. In this house my will is law. I desire you to pay attention to what I have said about the passage-window.' 'Yes, ma'am,' says Sarah, as uppish as you please; but——" Doctor (who has got his thermometer ready): "Ah, yes; exactly. Allow me to place my thermometer under the tongue; and will you kindly keep the mouth closed for the three minutes that are necessary for ascertaining your precise temperature. I will prescribe at once." During the three minutes the prescription is written, the doctor puts on his gloves, gathers up his hat and umbrella, and notes that there are no obstacles in the way of escape. All being prepared, he ejaculates emphatically: "Thank you. A normal temperature, I see. Good morning. You will find yourself quite well to-morrow taking what I have prescribed," and vanishes.

Certain Aspects of Gonorrhœa in Women.—Dr. Noble (*American Journal of Obstetrics*) says an interesting phase of gonorrhœa in women is the invasion of the womb, Fallopian tubes, ovaries and peritoneum. In the urethra, the vulvo-vaginal glands, the vagina, the uterus and the Fallopian tubes, the general facts are the same—the disease has little if any tendency to undergo a spontaneous cure. The rule is that a chronic catarrhal condition succeeds the acute inflammation—if the disease has not been chronic or "creeping" from the beginning—and that in some fold of membrane, crypt or follicle, enough of the specific poison remains to set up acute inflammation anew. The known chronicity of the disease, and its rebelliousness to treatment in accessible regions, offer but little encouragement to expect a perfect cure in an inaccessible tube from which drainage is difficult, if not impossible. Personally he knew of no case in which a gonorrhœal salpingitis had been perfectly cured. He believes that the rule of practice should be to remove all such uterine appendages when the health of the patient is compromised by their presence. There is reason to believe that gonorrhœal salpingitis invariably produces occlusion of the tube, except in those cases where the infection spreads quickly to the peritoneum and induces rapidly fatal peritonitis. In respect to the question as to removing both uterine appendages when only one is infected with gonorrhœa, he mentions the fact that when one uterine appendage has been removed for inflammation the disease is likely to attack the other tube subsequently. Therefore, in operating upon women, the mothers of families, and who are approaching the menopause, it is certainly wise surgery to remove both uterine appendages, even though one is healthy. In young women desirous of bearing children, where only one tube is infected, it should be left to them to select whether one or both tubes should be removed, as they alone must suffer the consequences of success or failure. Probably the percentage in which extension to the healthy side will occur can be materially reduced by appropriate treatment.—*Sheffield Med. Journal.*

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ABSOLUTISM IN PHYSICAL DIAGNOSIS.

There is, perhaps, no examination by the physician so frequent as that of the thorax, for the various diseases of organs found in that cavity. From the day that, as a student, he enters the wards of an hospital, new stethoscope in hand, to the day he ceases practice, he is constantly percussing and auscultating, inspecting and measuring chests.

The capacity for becoming good diagnosticians of chest diseases depends upon more than the perseverance of the learner. Some seem naturally to grasp at underlying conditions, to have natural powers of combination, and to find the path to a pretty certain diagnosis in the great majority of cases quite easy, while others, apparently more persistent, at any rate during their student days, and equally, if not more careful as physicians, never seem to arrive at that stage when they can with any degree of certainty distinguish between a friction rub and a crepitant rale. To some the difference between the various heart murmurs and sounds remains, we believe, to the end of their days, rather a shadowy and indefinite thing, the result of a jumbled mass of facts learned by rote, but never understood.

To fully appreciate the above facts, one needs to have acquaintance with final students, or to have frequent opportunity of noting the ideas of practitioners. We have known a medical man of many years' standing diagnose a case of acute pneumonia as one of phthisis. Some students cannot at the end of their term tell the difference between a high-pitched and a low-pitched note, cannot distinguish the difference in the feeling of resistance between a solid lobe of lung and one perfectly normal, or appreciate the thrill of a presystolic murmur. And this is true, notwithstanding that they have been quite as attentive as their more fortunate brethren who easily and rapidly learn these physical signs, and can be as certain of their existence as they can be of the meaning of an articulate word.

Do we not, however, in all candor and honesty, *all* sometimes meet cases that conform to no law of physical diagnosis? We believe that if the truth were known many cases of lung trouble are never clearly revealed while the patient is alive. The *post-mortem* room is an excellent institution, if for nothing else than to keep medical men modest, so far as that can be done. Of course there will always be doctors who are cock sure of their diagnosis; as there are men in all walks of life who are cock sure of whatever they profess to know. But leaving aside this fortunately small class, many of the closest observers, and best diagnosticians must often be in doubt as to the true condition of things in a patient's lung, after he has exhausted all the resources of physical diagnosis. We have been so often disappointed in our diagnosis, particularly of lung cases, that the following (*Lancet*) comes with a certain amount of balm :

A man aged thirty-eight, belonging to the Army Reserve, was admitted into the North-West London Hospital. He was severely ill, suffering from dyspnœa. He stated that a month previously he had been wet through, had a rigor and pain in the chest, and was confined to bed for nine days. Feeling better he resumed his occupation and, with the exception of a few days, had been up and about till the day of admission. The respiration was 58, temperature 102° and pulse 120°; the left chest was dull from the base to the apex, and the physical symptoms were somewhat equivocal and conflicting, the balance after very careful examination being in favor of a large effusion. The cardiac sounds were faint and almost inaudible, but the heart was apparently beating at mid-sternum. An aspirating needle was inserted in three different spots *but without obtaining any evidence of fluid.* A fourth puncture produced four ounces of clear serum. On the following day there was evidence of pleurisy on the left side, the

dyspnœa increased and the man died in the early morning of the next day.

At the *post mortem* the left pleura was found much thickened and the lung compressed, the pleural cavity being occupied by numerous loculi, separated from one another by dense fibrous bands, some of which were at least half an inch think. These loculi were filled with clear serous fluid, the largest lying on the posterior portion of the diaphragm and containing many ounces of it. In addition there was evidence of recent pleurisy on the right side and there was a large pericardial effusion (eight ounces). The course of the needle was followed. The three first punctures had plunged into the dense fibrous septa which divided the loculi. The fourth alone reached fluid, but unfortunately penetrated one of the smallest cavities.

THE USE OF CHLOROFORM IN MIDWIFERY.

It would be interesting to learn what proprotion of normal labor cases in this country are facilitated, and the pangs of the acme of the second stage mitigated, by use of a small quantity of chloroform. It is safe to say that whether the pactitioner has been taught in his student days to use it, or has been instructed on that other line, which has fully developed in it all the merits and demerits of conservatism, that nature is the best midwife, and should be left to take her course, he will not use it more than once or twice in practice without being converted to its use in every case, normal or other, in which it is not specially contra-indicated. The safety of the procedure depends, as is now well-known, upon two points; first, that the pain of the end of the second stage is sufficiently controlled by far less anæsthesia than would be necessary for surgical purposes, less too than would be needed to stop either uterine contractions or even the contractions of the abdominal muscles. The second is that the intra-abdominal pressure, before evacuation of the uterus has occurred, is too great to make it possible for the patient to inhale too much.

As to the *modus operandi*; an assistant, other than the nurse, is not needed, as the accoucheur can superintend the first inhalation, and then let the nurse give, under his direction, after, whiffs if necessary while he is engaged at the delivery of the head. Vomiting is not apt to follow the use of the small quantity needed. If the accoucheur choose, he may give the woman a cup or tumbler, with some absorbent cotton in it upon which he has poured a little chloroform or A. C. E. mixture, and she can use it as each pain comes on, unconsciousness causing the falling away of the cup when enough has been inhaled. The main objection to its use has been the fear of increasing the liability to *post-partum* hæmorrhage. If used for any purpose after evacuation of the uterus that fear is well founded, from the risk incurred of uterine relaxation. But that need not be feared if the chloroform is used only during the second stage.

A paper read this year by Byers, of Belfast, before the Section of Obsterics at the sixteenth annual meeting of the British Medical Association, favors the much more frequent use of chloroform in normal labor. The author of the paper points out the fallacy in arguing that because chloroform is given and hæmorrhage follows, the one is the cause and the other the effect; the old *post hoc, ergo propter hoc.* "Dr. Byers argued that the great majority of cases of alleged flooding after delivery, occurring when the anæsthetic was used, can be explained as being due, *not* to the chloroform, but either to rapid delivery, or to a want of proper management of the third stage of labor, or to a combination of both these causes." The paper ended with the positive statement, as the result of a large experience, that "if proper care be used *post-partum* hæmorrhage will not occur more frequently when chloroform is used than when the anæsthetic is not given."

Operative Interference in Peritonitis.—While laparotomy in the acute stages of peritonitis has found its advocates of late, the voice of abdominal surgeons generally is loudly against it. Dr. Eastman of Indianapolis (*Journal of American Med. Assoc.*) condemns it strongly. "In the earlier stages of septic peritonitis (and all inflammation is of septic origin), surgical interference is but adding fuel to the flames. After the patient has been tided over the acute stage of the disease, to the time when the micro-organisms have become less active, surgical efforts may be

curative by removal of the localized products of inflammation. Cases have come to my knowledge where practitioners anxious to obtain the prestige presumably gained by abdominal section, have ventured to open the swollen abdomen with no definite idea what they were going after, where they were going to locate it, what they were going to do with it, after they had found it. After opening the abdomen freely, with the hope that they might see something which the fingers had not been able to feel, they found the intestines distended with gas, piled up in formidable stacks over the abdomen and even falling down on the table. Their position was something like the man who attempted to repair the clock ; he had no difficulty in taking the clock to pieces, but when he attempted to put it together again he imagined he had wheels enough for fourteen clooks."

TREATMENT OF VESICAL CALCULUS IN BOYS.—Pousson, in reporting, (*Gaz. des Sciences Méd.—Am. Jour. Med. Science,*) a case of cystotomy for stone in a boy of eleven years, makes the following conclusions from a study of the literature :

1. The opinion of surgeons of different countries upon the comparative value of the supra-pubic operation and lithotrity in children is not yet fixed. In France the preference is on the side of the cutting operation, and the statistics of lithotrity, though very favorable, are perhaps misleading from the diversity of their sources.

2. The dimensions of the urethra of the child, which are still uncertainly determined, are the most serious obstacle to the generalization of lithotrity at this age.

3. The supra-pubic operation is almost demanded in children because of the situation of the bladder and the dangers of wounding the ejaculatory ducts, to which almost all the perineal operations expose.

4. Ballooning the rectum, far from being indispensable, is sometimes troublesome and even dangerous ; a simple sponge in the bowel suffices to maintain the bladder in position.

5. Union of the bladder by first intention, after suture of the wound, is possible in children. In this case the retained catheter is at least prudent, if not absolutely indispensable.

TOTAL EXTIRPATION OF POPLITEAL ANEURISMS.—Meinhard Schmidt advocates, in the *Archiv. für klinische Chirurgie* (*Am. Jour. Med. Sciences*) the extirpation of popliteal aneurisms. The aneurism is to be removed exactly as if it were a tumor. The advantages over the Antyllean method, which is the next most radical, is that no unnecessary part of the diseased vessel is left behind, which might become the seat of suppurative processes.

In the forearms and legs, where there are two main vessles of supply, and the chance for a good collateral circulation is very favorable, the radical method is the operation of choice.

The author details a case in which he excised a popliteal aneurism from each leg of a patient. The most tedious part of the operation, in nearly every case, is the separation of the vein from the artery. The integrity of the vein should be maintained if it is possible.

The author prefers packing and secondary sutures, to be tied in forty-eight hours.

In twelve cases collected by the author (including his own), the results have been very favorable. Gangrene did not occur ; even an accidental cut of the vein had no unfavorable influence upon the establishment of collateral circulation.

THE ABORTIVE TREATMENT OF ERYSIPELAS OF THE FACE.—Dr. Talmon advises (*Internat. Jour. of Surg.*) treatment of facial erysipelas by spraying with a solution of corrosive sublimate in ether, 1 in 100, preferably by means of a hand-bulb atomizer. The more forcible the spray, the shorter the time required for atomization. Attention should be paid to the delicacy of the skin, the depth of infiltration, the presence of vesicles. The formation of vesicles in consequence of the spraying is not dangerous, and as long as the affected area is small may be beneficial. The spray should be especially applied to the periphery of the erysipelatous swelling, and the surrounding healthy skin for a distance of one or two centimetres. In erysipelas of the eyelids only the adjacent parts are subjected to the action of the atomizer. After the spraying the face should be covered with compresses frequently moistened in boric acid solution. One or two forcible atomizations are sufficient at a rule ; later their force may be diminished, and only those places are to be treated where the erysipelas threatens to advance. The pain produced by the atomization is usually moderate and is due to the increased swelling and

formation of crusts This method may be employed on other parts of the body, but more force must be employed.

MORPHINE AND GASTRIC SECRETION.—Hitzig has noted (*Med. Centr.*,—*Br. Med. Jour.*) that morphine administered hypodermically to a dog is shortly afterward excreted by the stomach, and that, following upon this, there is a marked reduction in the amount of gastric juice secreted, and more especially of its acid constituent. The cessation of the action of the drug is followed by the secretion of excess of hydrochloric acid. With regard to the effect upon human gastric juice, the case is described of a patient who consumed daily two grammes each of morphine and cocaine, the latter having been resorted to in an endeavor to remove the craving for the morphine. He was treated by gradual reduction of the doses of the alkaloids, but it was not until the morphine was entirely discontinued that the presence of free hydrochloric acid was indicated.

RECTAL FEEDING may be carried on by means of a mixture of two eggs, twenty grains of pepsin, ten grains of chloride of sodium, and six ounces of water (*Detroit Emergency Hospital Report*). This mixture should be slightly warmed, thoroughly agitated, and then gently introduced into the bowels by means of a syringe. To facilitate the entrance of the fluid into the intestines, it is well to put the patient in a position with the hips much elevated above the head; either the knee-chest position, or with two or three pillows beneath the hips.

ENUCLEATION OF THE TONSILS.—Dr. Pollard, in the *Lancet*, suggests their removal as follows:—"The surgeon places the tip of his forefinger between the upper and back part of the tonsil and the posterior pillar of the fauces, tears through the mucous membrane at that spot, and then peels off the tonsil from the wall of the pharynx until it hangs loose in the throat by a short pedicle attached to its lower and anterior part. The pedicle may be either torn through by twisting or snipped across with a pair of scissors."

LAVAGE OF THE STOMACH.—The comparative readiness with which the stomach may be washed out by the general practitioner, and the numerous cases in which relief is thus afforded, leads Pick (*Centralb. f. Therap.*) to a discussion of what constitute suitable cases. His classification includes:

(1) All cases where the food remains an abnormally long time in the stomach, whether such delay is due to dilatation consequent on stricture of the pylorus or to simple stretching.

(2) Cases of carcinoma of the pylorus where the greatest relief is often given by regular siphonage and cleansing.

(3) To remove excessive mucous secretion due to gastric catarrh and as a means of testing the deficient elements of the digestive fluid.

Cholelithæmia and catarrhal icterus, to remove auto-organic poisons.

All cases where the retching might be fatal to the patient as in advanced cardiac, pulmonary or arterial disease are contra-indications.

CALOMEL FOR CIRRHOSIS OF THE LIVER.—Dr. L. Sior (*Hospitals-Tidende—Lancet Clinic*) had a case of cirrhosis of the liver under observation which had been treated by various methods for nine months without result. The patient, a man of thirty years, received calomel, and a striking improvement soon became manifest, as the pains and icterus disappeared. He prescribed the drug in the following manner: For three days he received five centigrammes ($\frac{3}{4}$ gr.) of calomel six times a day with intervals of two hours. Then it is left off for three days and again resumed. This is continued for one month, and the following thirty days only four powders a day are taken.

DANGERS OF VAGINAL PESSARIES.—Dr. Neugebauer, of Warsaw (*Br. Med. Jour.*), has published an exhaustive analytical monograph on this question, so important in these days when gynæcology is widely practiced by the surgeon and physician as well as the specialist. Two hundred and forty-two cases of injury have been collected and analyzed, five more being added in an appendix. Tabulating the results, Dr. Neugebauer presents the medical public with the following formidable statistical records. Twenty-three cases of perforation of rectum alone by the pessary; twenty cases of perforation of the bladder alone; ten cases of perforation of the bladder and rectum; one case of ureteric fistula alone; one case of ureteric and vesico-vaginal fistula; one case of

urethral-vaginal fistula; two cases of perforation of Douglas' pouch (neither fatal); three cases of perforation of the vaginal walls, the extruded portion of the pessary lying in the pelvic connective tissues; and six cases of entry of a vaginal pessary into the uterus.

RELATION OF RHEUMATISM TO CHOREA.—(*Arch. of Ped.—Arch. Gyn., Obstet., and Ped.*) Papers treating on chorea were read by the three gentlemen mentioned below, and their conclusions were as follows:

Dr. Townsend concludes—

(1) Fright, eye-strain, debility, and school-pressure, particularly the latter, which often includes some of the former, are potent, exciting causes of chorea.

(2) Rheumatism, although absent from the history of at least half the choreic patients, occurs with greater frequency among the choreic than among the non-choreic cases.

(3) There is an intimate relation between chorea and rheumatism.

(4) The heart murmur so frequently heard in chorea, sometimes associated with chorea and sometimes not, is in a considerable proportion of the cases due to endocarditis, and leads to organic valvular disease.

Dr. Crandall in his paper states that he should class rheumatism, fright, hysteria, excitement, and pregnancy, not as all powerful agents for the production of chorea, but rather as exciting agents for the production of the disease in subjects predisposed to it, the most universal and potent of which is rheumatism.

Dr. Adams concluded—

(1) That chorea is due to rheumatism in but a small percentage.

(2) That the heart murmurs are hæmic in the largest number of cases.

(3) That the successful treatment would seem to exclude latent or apparent rheumatism.

(4) That anæmia and chlorosis are well marked in nearly all cases.

(5) That severe impoverishment is by far the most potent factor.

IMPREGNATION BY A SEXUAL PERVERT FEMALE.—Duhousset, of Paris, some years ago (*Medical Standard*) reported a case of this kind, and another has recently been reported (*N. Y. Med. Jour.*) by Dr. A. F. A. King, of Washington, in which a young unmarried woman was impregnated by her sister-in-law, who, soon after copulating with her husband, committed the simulacrum of the male act with her sister-in-law.

Prof. Hare recommends the following pill in cases suffering from chronic urethritis, anæmia, and debility:

℞.—Oleo-resinæ copaibæ, . . . ʒ j.
Oleo-resinæ cubebæ, . . . gtt. iv.
Ferri et ammon. citratis, . . gr. xx.. M.
Ft. pil. x.
Sig.—Take one three times a day after meals.

A NEW TÆNIFUGE, proposed by Dr. Duhourcau, is the following combination in capsules:

Extract of male fern . . .	1.20 gm.
Chloroform, ...	3.60 gm.
Castor-oil, ...	3.60 gm.
Croton-oil, ...	gtt. ss.

To be divided into twelve doses.

NEPHRECTOMY at once is admitted by Wagner only in malignant tumor and tuberculosis of the kidney. In hydro- and pyo-nephrosis nethrotomy is better. In benign tumors and cysts partial nephrectomy may take the place of total extirpation of the organ.

PRURITUS ANI.—Dr. Wm. F. Waugh, (*Times and Reg.*)—recommends Goulard's extract diluted with four parts of water, applied constantly day and night, as an excellent application in this disease.

LOCAL ANÆSTHESIA for minor operations:

℞.—Menthol, ...	1 part.
Ether, ...	15 parts.
Chloroform, ...	100 parts.

M.—Use in spray apparatus.

A SAFE METHOD of chloroform administration Laurie says, does not exist. The all-important point is that the breathing should not be interfered with in any way.

UTERINE FIBROIDS should, in most instances, be left alone, according to Thornton's experience. He has not been favorably impressed by the Apostoli method.

A Porter's Foot-Race.—Jean Labasse, a French porter, recently carried a bag of sand weighing 220 pounds (*Med. News*) a distance of nineteen miles in fourteen hours, beating his competitors by several hours' time.

Five minims of creosote and five grains of boracic acid in an ounce of the distilled extract hamamelis, is said to be a most valuable injection in gonorrhea.

Appendicitis, if Seen Early.—Absolute rest, fomentations, salines every half hour until four or six fluid stools are produced.—*Jonas.*

Ten grain doses of phenacetine at bedtime is said to fully control frequent nocturnal micturitions in the aged.

Books and Pamphlets.

A Hand-Book of Local Therapeutics. By Allen, Harte, Harlan & Van Harlingen. Edited by Harrison Allan, M.D. Octavo, 500 pages; price, $4. Philadelphia: P. Blackiston, Son & Co. Toronto: Carveth & Co. 1893.

The need for a book of this character has long been apparent, for there has been no text available in which the local action of drugs was not subordinated to their general actions, while the average text-book omits altogether mention of many agents, that in the hands of a specialist become valuable aids to cure.

Diseases which require chiefly local treatment are those of the respiratory passages, eye, ear and skin, together with certain general surgical affections, including the diseases of women; it is therefore to the great advantage of the work that each remedy has been thoroughly set forth by different authors who have had large practical experience in these various branches.

Each remedy has been taken up in alphabetical order, and after a description of its pharmaceutical properties, is considered in reference to its physiological effect and value in local treatment.

The demands for thorough revision of local medicaments made by the advance of theories of asepsis, have been fully considered, and a succinct account has been presented of the source and properties of the very numerous new agents which affect tissues locally.

Some drugs have been excluded which have been highly praised; on the other hand great care has been taken not to endorse imperfectly attested novelties.

This hand-book embodies the results obtained by experienced teachers, and will prove a very valuable work to the general practitioner. Two carefully made indexes make it a book of ready reference.

The Year Book of Treatment for 1893. Philadelphia: Lea Bros. & Co. Toronto: Carveth & Co.

In the ninth edition of the "Year Book of Treatment" there are two new articles. Dr. Dudley Buxton has a separate article on "Anæsthesia," and Prof. W. H. Corfield, M.D., on "Public Health and Hygiene," the increasing importance of which branch is evident to every one who reads even the daily papers. Among the contributors may be mentioned, J. Mitchell Bruce, Reginald Harrison, Edmund Owen, and many other men equally and favorably known. Our readers cannot go wrong in ordering a copy.

Hand Book of the Diagnosis and Treatment of Diseases of the Skin. By Arthur Van Harlingen, M.D., Professor of Diseases of the Skin in the Philadelphia Polyclinic, etc. Second edition, revised and enlarged: with eight full sized plates and other illustrations. Philadelphia. P. Blakiston, Son & Co. Toronto: Carveth & Co.

The especial feature of this new edition of Van Harlingen's well known work, is the introduction of a number of illustrations, some original and others taken from special journals and monographs. The work is too well known as good, to need any further recommendation.

Anatomy of the Brain and Spinal Cord. By J. Ryland Whittaker, Senior Demonstrator of Anatomy, School of Medicine, Minto House, Edinburgh. Second edition, p.p. 173. 1892. Edinburgh: E. & S. Livingstone. Toronto: Carveth & Co.

This is one of the most admirable books we have seen. It bears on every page the imprint not only of the anatomist, but what is of great importance, the *teacher*. It contains 40 beautifully executed plates, some colored, and all wonderfully good. We have nothing but commendation for the work, whether to physician, surgeon or student.

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